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January 2022 / CM303

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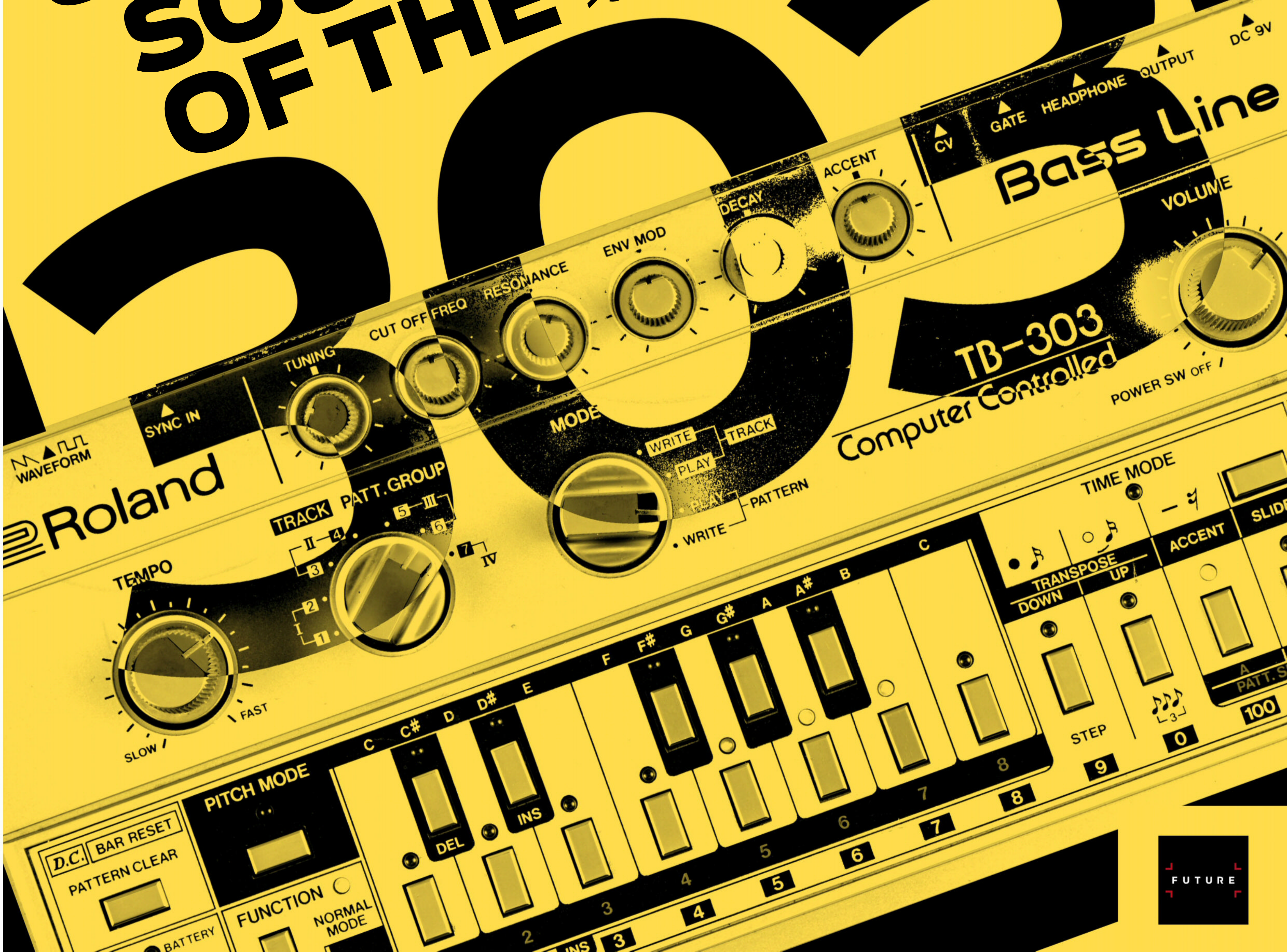

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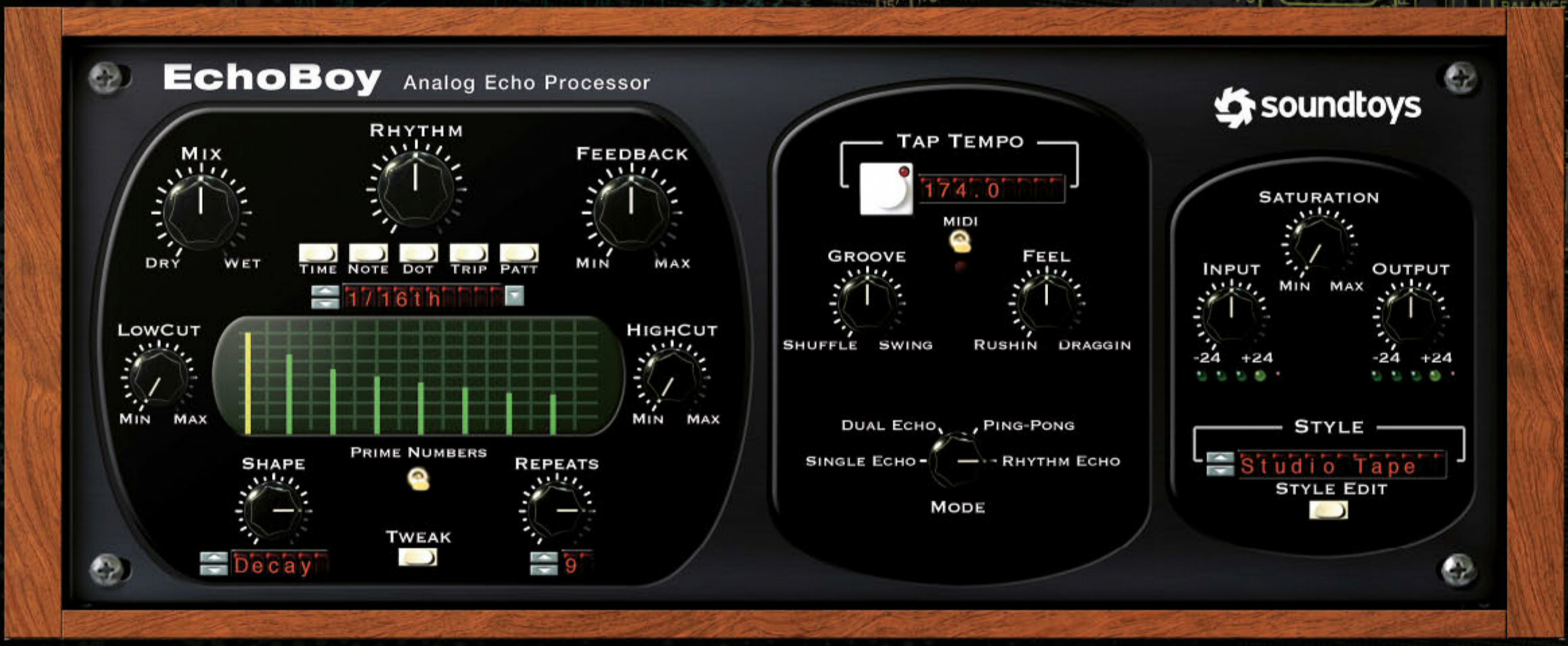

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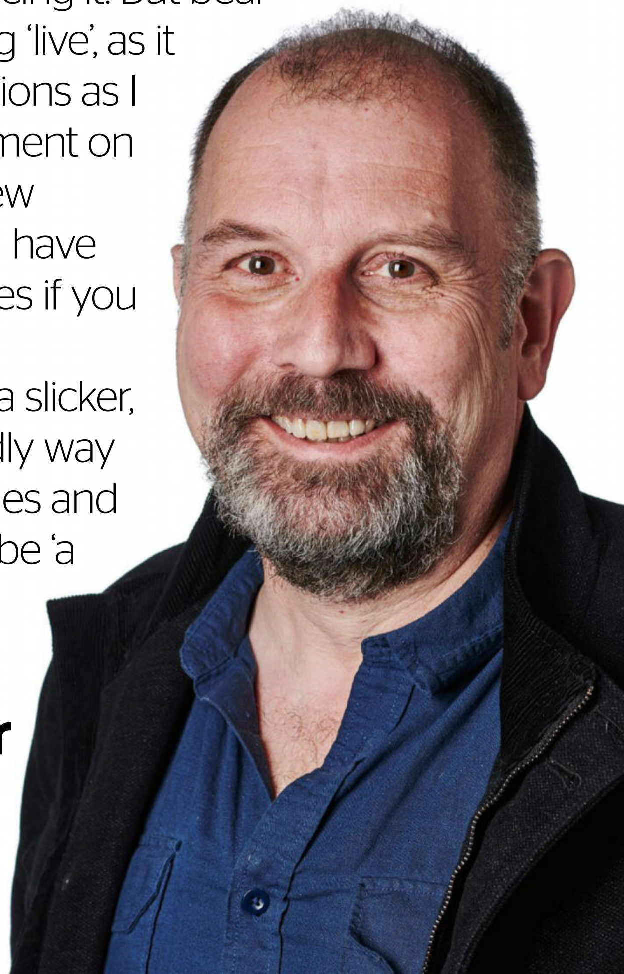
DOWNLOAD

See page 81 to find out how to download this issue's exclusive content

welcome

There's only one thing to cover in issue 303 of *Computer Music* and that is, of course, the Roland TB-303. We like to think we've done this iconic piece of tech justice in a special feature (p16) and with double the number of new sample packs dedicated to it. And for these we've now gone 'download only' as, just as we went to press last month, we heard that DVD costs effectively trebled so it's gone, as have all plastic covermounts from magazines in our company. "And why not?" the environmentalists among you might say, and I'd like to say this was our motive – our very own contribution to COP26 – but really there was little choice. I'm politically neutral, of course, but various worlds have collided and DVDs are simply no longer viable. Anyway, the silver lining is that we get the money we spent on the DVD to create extra content for you which can now all be downloaded. We're currently still using FileSilo for this which we very much intend to make our secondary 'backup' system, with a faster, more C21 option replacing it. But bear with us on this; it's happening 'live', as it were, so we're looking at options as I write. (Do check out a document on FileSilo this month called 'New download system' which will have details to download larger files if you are struggling with FileSilo.) Ultimately, we'll end up with a slicker, more environmentally friendly way to share our software, samples and video, so, long term, this will be 'a good thing'. As ever, more info next issue!

> "There's only one thing to cover in issue 303..."



Andy Jones Editor
andy.jones@futurenet.com

ISSUE (TB-)303 JANUARY 2022

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IT REALLY HAD TO BE A...

303 SPECIAL

We look at the history, software and ways to create the sound of a legend

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A massive seven packs of new (and classic) acid and 303 sounds to celebrate the issue number! And twice as many as usual too!

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303 ON FILM, FOR FREE (03)

Download our Masterclass videos and guides to program 303 sounds.

Download via File Silo (see p81)

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cm/plugin suite

THE CM PLUGIN SUITE

An all-new PDF detailing our complete Plugin Suite of instruments and effects

Download from File Silo (see p81)

cm/news

NEW RELEASES > COMMENT > INDUSTRY HAPPENINGS

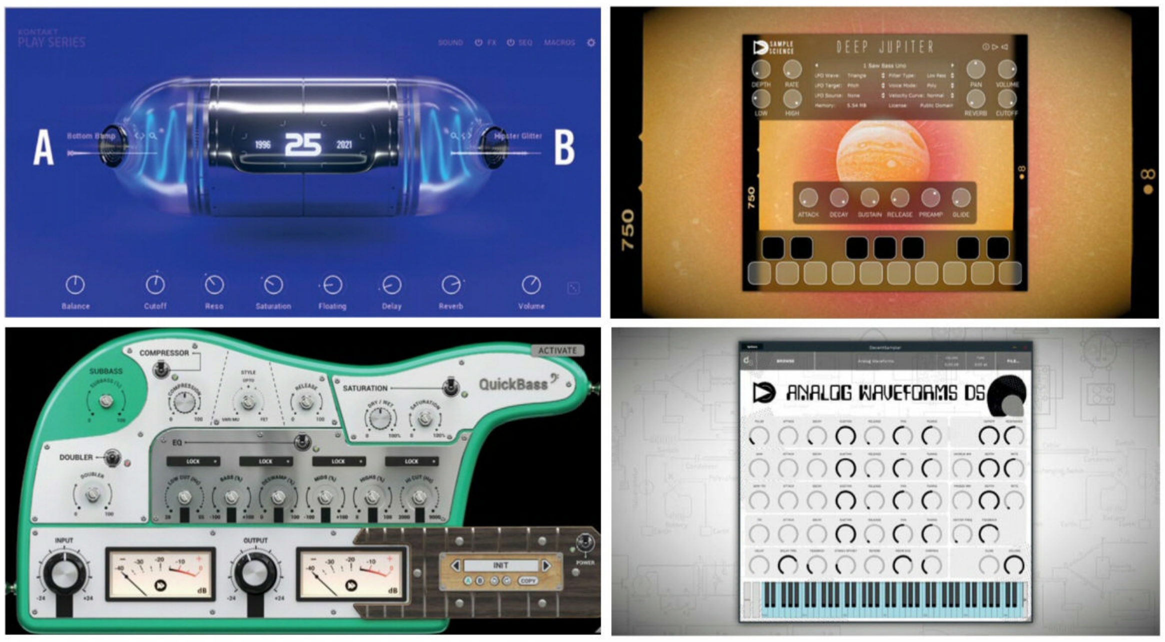
Can you handle all this free stuff?

There's a lot of free software on the way for Christmas...

> You'd be forgiven for thinking that everything – and we mean *everything* – is just about to treble in price, and if you want a turkey for Christmas then just forget it. Lorry drivers, Brexit, *Mrs Brown's Boys*... whoever. Whatever. They are *all* to blame for increased prices across the board and the resulting lack of variation in cheeses for your Christmas lunch. But not so the music software world. We don't need lorry drivers because we use the internet! And that means there's a whole load of bargains still to be had. And not just any old bargains either; ultimate bargains. Free bargains!* *Not strictly 'bargains' then, yes we know**

Yes, we have a raft of free plugins to announce this month, and first up it's SampleScience – who are no strangers to the odd free instrument – with both **Analog Waveforms Ds** and **Deep Jupiter**. The former instrument requires the company's Decent Sampler plugin (think Kontakt but on a slightly smaller scale) which is also free. It includes a sample set from Dave Smith's Mopho analogue synth with each waveform sampled note by note and 10 seconds in length. You even get four effects, a filter plus plenty of envelope and filter options.

Deep Jupiter is SampleScience's analogue bass sound module featuring "the sound of a famous 80s synthesizer with the name Jupiter in it". Mm, how could we possibly say which one? It has eight bass sounds and a surprising number of tweakable parameters.



It's beginning to look a lot like... a load of free plugins

Talking of Kontakt, Native Instruments are celebrating their 25th anniversary – they started just before us. As well as a bunch of limited edition hardware (Ultraviolet and Vapor Gray Komplete Kontrol, Maschine and Traktor) they've also announced **Twenty Five**. This is a free Kontakt instrument that lets you create sounds via presets from 37 different instruments from NI's history, going right back to Generator. It's only available until 31st December so download it fast!

Fourth up, **cm** reader Mat Ward has developed a free **iOS and Android Serum controller** described as "the closest you'll get to a hardware version". Check out the video clip at https://youtu.be/VycOKOImpyo which looks pretty cool!

Finally, phew, United Plugins have released a free version of **QuickBass**. Well, essentially it doesn't spit noise out after the 15-day trial but disables some tweakability. Still works though.

unitedplugins.com, samplescience.com, native-instruments.com

Look out for the new Ableton Live bookazine: a book-shaped magazine, or magazine-shaped book? We can't decide...

We go Live

As well as going Ableton Live crazy next issue – see p98 for more on that – we have more Ableton-related news this month in the form of a special bookazine dedicated to the now two-decade-old DAW. The ***Music Producer's Guide To Ableton Live*** covers everything Live, from a complete overview of the software, through best-practice arranging, to how to produce many different genres in the DAW. There are interviews, step-by-step workshops, in-depth production techniques and more. Grab it now!

Available in all good (and bad) newsagents

That's a lot of Rob Papen sounds, across 25 titles. Even a Predator couldn't handle that lot...

Rob Papen announces Predator 3 – not the film – and much more

We quite enjoyed Predator 2 (the film and the plugin), although some say that the original (film, that is) can never be beaten. Certainly Rob Papen will be hoping that his Predator 3 synth will fare better than the Predator 3 film which wasn't even called 'Predator 3', but *Predators*.

Anyway, enough of that. The all-new Predator 3 synth is, like its predecessors, a hybrid analogue and wavetable synth, and like every Rob Papen synth, features almost too many presets. This one crams in 6,500 of them - enough for even the most energetic of preset surfers.

You get both banks of sounds from Predator 1 and 2 plus a completely new UI which is both "interactive" (which means all essential main controls are visible on screen) and resizable. The synth costs £125/$149/€149.

In other Papen news, the company has announced Rocoder, "a new muscular vocoder type of FX" which they admit sounds a bit like 'vododer' but not to expect a regular vocoder. We're assuming, then, it's a vocoder with added robot voices. And we're probably right. Rocoder features a 32-band vocoder, an Additive mode, a combined Vocoder + Additive mode, Noise mode, Tuned Noise mode, and a Tuned Comb mode, all of which are enough modes to make any noises that Depeche Mode won't. Probably. Rocoder costs £41/$49/€49.

And finally from the RP stable we get the lot! Rob Papen eXplorer 7 is literally everything Papen has ever done in one bundle. That's 25 titles and probably over a million sounds for £420/$499/€499.

robpapen.com

PSP Saturator released

We've been big fans of PSP plugins pretty much since the company started out, not long after we did - and not just because they give us free vodka at trade shows, although that obviously helps. Anyway, the Polish developers have just announced PSP Saturator, an analogue warming plugin based on the **cm** 'Ultimate Buy' PSP MixSaturator from 20 years ago, although its algorithms have not just been updated, more rewritten from the ground up. "With the support of top mixing engineers and producers, and a long beta process, we meticulously refined each algorithm to win the hearts (and more importantly, ears) of some of the most discerning and demanding users in the industry," PSP say of the new Saturator, and so confident are they of the results that the original Mix Saturator has now been discontinued. PSP Saturator is available now, priced $99.

PSPaudioware.com

More vintage vibes from SSL with X-Echo

Following the mighty 10/10 review of their Fusion Vintage Drive and Fusion Stereo Image plugins in last month's *Computer Music*, SSL have announced the X-Echo native plugin. It includes tape-style signal degradation and soft compression with "classic SSL-style distortion characteristics".

X-Echo is "inspired by the distinctive sound of early tape delay hardware of the 1960s and 1970s" but also capable of lots of contemporary sounds. You therefore get classic slap back and swirling tape delay echo effects alongside more modern effects, thanks to extra stereo width, diffusion and filtering options.

X-Echo is one more release in what could be a vast range of SSL plugins as the UK company bolsters its online shop. And with each release, the company's subscription model looks that bit tastier with this SSL Complete Bundle Subscription coming in at $14.99 per/month while each plugin, X-Echo included, costs $199.

solidstatelogic.com

App watch

We report on the latest developments in phone and tablet music making

Zentracker

Spurred on by the belief that "recording music doesn't have to be complicated," Roland has created Zentracker, a new free multitrack recorder for iOS and Android.

You can run as many tracks as you want (or as many as your device can handle) and there are both effects and audio loops to get your productions going. Projects can be saved to Google Drive and Microsoft OneDrive for easy storage and sharing.

Although Zentracker is free - providing you have a Roland account, that is - if you become a Roland Cloud Core, Pro or Ultimate member you'll get an enhanced feature set.

roland.com/us/products/rc_zentracker/

Polywave

Created by the team behind the award-winning Fingerlab and Dream Theater keyboard wizard (and self-anointed actual wizard) Jordan Rudess, PolyWave is a new iOS synth that takes inspiration from the Korg Wavestation.

This comes with a large waveform library and enables you to draw your own on the screen, while the stash of presets - more than 100 of them - includes leads, loops, pads, FX and more.

You can download a free version of PolyWave that gives you access to 12 presets and a limited set of features, while the full version can be had via a $7.99 in-app purchase.

fingerlab.net/portfolio/polywave

Jakob Haq

iOS music-making still feels like a relatively new concept, but it's actually been around since 2007. High time, then, that someone charted its history, and that someone, it turns out, is YouTuber Jakob Haq.

His video marks out 14 years worth of significant iOS music-making milestones, including the introduction of the App Store, the first iPhone synth, Audiobus, Inter-App Audio, the first iPad Pro and Audio Unit Extensions.

If you're a beginner, you'll discover how we got to where we are today, and if you're an old hand, you'll likely have a few memories jogged.

youtube.com/watch?v=kF99wJL_uJo

Get with the programmers

Mixed in Key and Captain Plugins have been helping musicians and DJs around the world. Here's their story

Mixed In Key
Yakov Vorobyev

cm How did you get into music software?
YV "I grew up in Washington DC, and we were lucky to have two amazing club nights in town. I started going to both and watched how the DJ controlled the room – I was absolutely fascinated. I picked up some turntables, started DJing and my love of music and software helped me to start Mixed In Key. I've always loved harmonic mixing – if you take two songs in the same key and mix them together, they sound perfect in a DJ set. My dad and I used to spend time together where I'd play a record, he'd play the piano for me, and I'd label the key. I moved away and couldn't rely on my dad's amazing ears anymore. I needed a fast way to analyse my files, so I built Mixed In Key. Millions of people learned harmonic mixing, and started to use this technique in clubs. Mixed In Key turned out to be a magical idea, and it's so helpful to DJ and artists today."

cm What is MIK's philosophy?
YV "We've built music production software, DJ software and more but we always had the same goals: to help the musician make more money, to have a stable gig, to focus on what they love to do. We don't want to make software that has AI that steals jobs. It's better if the human is in charge."

cm What makes your software stand out?
YV "We never develop software that another company has made before. We only build things that we invent ourselves, and we've gotten more than 10 patents so far. Since we're always doing something new, it gives us a chance to experiment and be more avant-garde."

cm What are your most important plugins?

> "I couldn't rely on my dad's ears anymore so Mixed In Key was born"

YV "Captain Plugins is our award-winning music composition plugin. It's been used by David Guetta and numerous other artists. Mixed In Key Live, is our new collaboration with KSHMR to detect the key of Spotify, YouTube and any other real-time audio source. Mixed In Key 10 is the flagship key detection software used by DJs and musicians to analyse sample packs, DJ music, and much more."

cm What would you like to see developed in terms of software tech?
YV "A way for producers to find a singer/songwriter for their project. Even the top producers struggle with this. There are websites like SoundBetter.com that have great talent, but we wish it was easier to turn instrumental songs into vocal songs."

cm What advice do you have from the software industry?
YV "Try doing a UX test on your software with actual customers, and see where they get stuck. It's amazing how much we improved our software after we started testing it. For other musicians: never stop learning! There's always something new to try, and you can keep making music until you're 100 years old. Find a way to make music fun for yourself."

cm What have you got planned for the near future?
YV "A massive Captain Plugins release will provide inspiration to every musician. We've been working on it for two years and it's such a huge update that we're calling it Captain Plugins Epic. Be on the lookout for it!"

mixedinkey.com, captainplugins.com

Focusrite go faster

We could cut and paste the 'SSL new plugins' story here, because after Focusrite's rave reviews of their AI-based Fast range, they've announced an addition to that line-up: Fast Verb. Powered by smart:engine, an AI processor by Sonible, it helps you make the right choices when using reverb. "Finding the right reverb settings can be a time-consuming process and take away focus from creativity," say Focusrite (although we actually quite enjoy it. The 'finding' bit, we mean, not the 'losing focus'). There's a bundle deal for all Fast plugins to be had for an ominous £6.66 a month. More here…

collective.focusrite.com

A Roland three-be

On top of Roland's Zentracker app – see previous page – the company has two more software offerings this month. The first is a free Mac and Windows editor for the TR-8S and TR-6S Rhythm Performer instruments which "significantly enhances the workflow of these hands-on machines". More interestingly is the JD-800 synth addition to Roland's Cloud. This was one of our favourite hardware synths down to the sheer number of sliders, and while you don't get the feel of those in software, it's great to have the "unapologetically electronic sound palette" up there to play. Review soon.

roland.com

Berlin peace parade

In our heads, software developers from the same city must be at war with one another; or at the very least, churlishly not speaking to one another in local bars, or whispering "our software's better than yours" behind each other's backs. So it's great that Berlin-based Orchestral Tools and NI have teamed up for their second title, Sequis, a Kontakt instrument that focuses on"rhythmic themes and looping phrases". It's the follow up to Arkhis and will cost £179/$199/€199. Now, someone invite Ableton to the party who must be feeling left out. (We really must get out more.)

berlin.com

"Let's face it, you already own a delay plugin…"

… is the very opening gambit from WA Production on their new delay. And then just when you think these sample and plugin favourites are *not* tempting you in, they add, "but you haven't heard anything like Multibender!". Ah the teasers. Multibender features a 4-stage delay, multiband processing, Saturate, Crush and Detune options and more. Best of all it has one of those 'futuristic-but-not-futuristic-because-it's-now' interfaces that demands tweaking. It will cost you just $49 too, although, like Waves, expect sale prices.

waproduction.com

The Only **One** You Need.

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Computer Music 10 years back

Our monthly shake-of-the-head at our younger selves' news choices…

If we had a pound for every time we'd run a feature on mastering… we probably still wouldn't have enough for a decent set of mastering plugins. **cm**173 (January 2012) saw us showing you, once again, how to "give your mixes a professional, polished sound," with some specific advice for applying a "high-gloss" finish to tracks in several different genres.

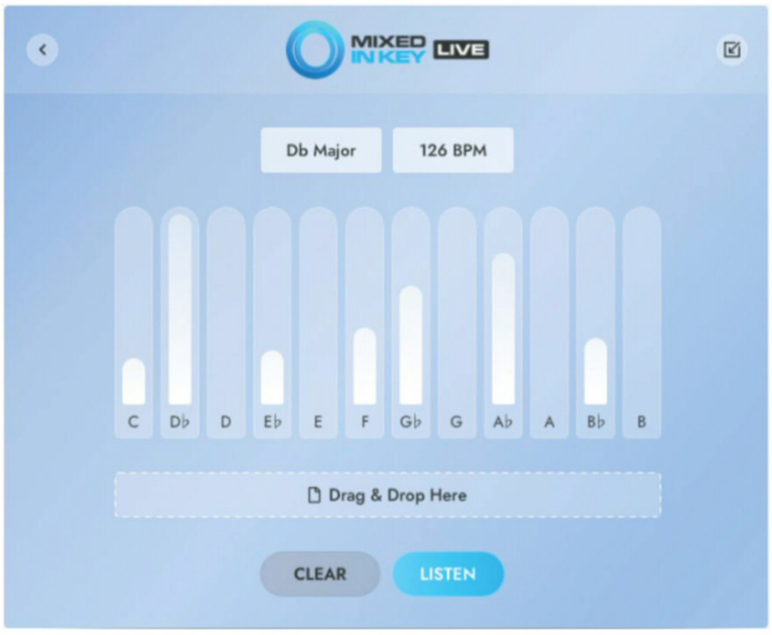
Going back to the beginning of the production process, a Facebook poll

> "Our 'playing the field feature' wasn't a guide to using Tinder"

'revealed' that most of our readers liked to start a track with the drums (no surprise there) and we spread a wild rumour that Apple might be about to ditch plugin support in Logic and GarageBand (thankfully, this turned out to be untrue).

Elsewhere, our 'playing the field feature' wasn't a guide to using Tinder – it hadn't even been invented – but a call to get out of your studio and start making some recordings in the real world. Oh, and we found Dimitry Sches' superb new soft synth to be far more than the mere 'Diversion' that its name suggested – in fact, we couldn't stop using it.

Smallprint: mastering 'gloss/sheen' level on cover imagery not always representative of at-home results



Mixed in Key Live(s) again

This announcement has already been let out of the bag a mere two pages ago by MIK's Yakov Vorobyev, so here's more on Mixed In Key Live! It's a collab between MIK and music producer KSHMR and is designed to allow you to match keys between your DAW and services like Spotify, Apple Music and YouTube. "Mixed In Key Live gives users the key, scale and BPM of any track and shows you the exact notes being played at any given time," they say. And while it sounds like it's Mac-only at the moment, it could well be a time-saver at the very least for DJs and producers. We'll check it out soon.

mixedinkey.com/live

Ins & outs

DEFINITELY JD
Roland are celebrating the 40th anniversary of their JD-800 synth in style, re-releasing it as a Zen-Core Expansion, Roland Cloud plugin and compact Boutique hardware synth (the JD-08). Can't get your 90s kicks from any of that? You never will…

ANDREW BARKER RIP
A member of Manchester electronic outfit 808 State since 1991, Barker has passed away, aged 53, after a short illness. He remained an active member of the band (with founder Graham Massey) right up to his death, releasing *Transmission Suite* in 2019.

SP AVIN YOU
Speaking of reissues, what should arrive recently but a new version of the E-MU SP-1200 sampler, created by original designer Dave Rossum. Faithful to the original both inside and out, this promises all the 12-bit crunch that won over hip-hop producers back in the 80s.

RHODES TO NOWHERE
We're eagerly awaiting the new Rhodes MK8 electric piano – and it does look lovely – but news that the 'entry-level' model will cost more than £8,000 has ended our dream of owning one. Oh well – at least we still have those authentic plugin emulations…

MACBOOK WHOA!
The 'chunky' look might be dividing opinion (in our office, at least), but first impressions are that the new MacBook Pro – replete with either M1 Pro or M1 Max chips – is seriously powerful. And it also heralds the beginning of the end of the pointless Touch Bar.

THAT'S ALL, FOLKS…
ABBA fans barely got chance to celebrate the band's return before Benny Andersson confirmed that their new album, *Voyage*, will be their last. "This is it," he said, and given the mixed reception the LP has had, that might be for the best. [No! – Ed]

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steinberg.net/valueedition

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steinberg
Creativity First

15 questions with…

Mason Maynard

After last month's 15 Questions With Shane Codd, we have another young producer who is making it big in the world of dance music. Mason Maynard already has the backing of BBC stars and some top production legends plus a studio packed with the best hardware and software. And it all stems from a school lesson when he was asked to produce on a computer. "There was another way to make music…"

With the backing of BBC Radio 1 legends Annie Mac, Pete Tong and Danny Howard and producers like Solardo, Lee Foss, and Richy Ahmed, Manchester-born DJ and producer Mason Maynard is already – at just 21 years of age – one of the rising stars of dance music. He is, as he states, all about the kick, bass and vocal and while his style is mostly house driven with catchy vocals – just check out *Make It Hot* (featuring Gene Farris) – he has also produced more breaks-infused tracks like *Memory*. Here he explains what it takes to make a great Mason Maynard track and he also reveals his best five plugins and a growing (and expensive) obsession with all things hardware.

1 Tell us how you got into music

Mason Maynard: "I'm a producer and DJ from Manchester and I've been interested in making music since around high school as I had

a really good teacher who introduced me to a lot of different genres on top of all the different music I would hear at home. I've always had a deep bond with music and found it to be an escape for me in many instances, so I definitely feel as though I owe a lot to it."

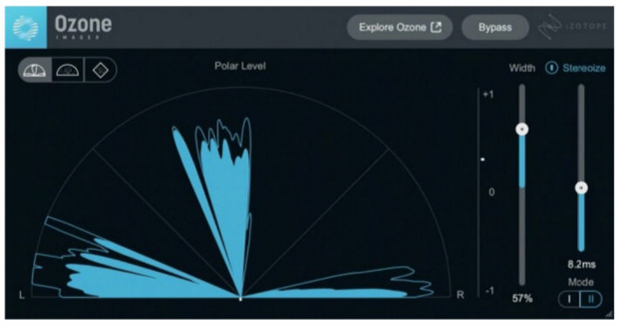
2 When did you get successful?
MM: "Personally I don't feel I've 'made it' but I'm absolutely aware and grateful that my job is literally to make and play records round the world. I do have a lot of ambition and I know the level that I want to be doing this in the years to come. When I put a couple of tunes out in 2017, I'd say things started to move quickly and I was in the fortunate position where bills were being paid from being in the studio and touring."

3 What is your production philosophy?
MM: "I just try to find and make music that has a strong groove; something that forces you to move. I also like to listen to music that has sounds that spark some kind of emotion, as I find that when there's an emotion attached to a song, it's more memorable and often helps the listener to understand the story better."

4 When did you discover the computer music route to music production?
MM: "This was back in high school. As part of our music lessons we had to make a song on the computer. I'm not musically trained so seeing that there was another way to actually make songs that didn't require you to play an instrument is probably what appealed to me the most."

5 Tell us about the gear in your studio
MM: "So currently I've got a few Roland drum machines (MC-505 , TR-707, TR-8S, TR-909), an Akai MPC2000 and some of the newer Behringer clones (RD-8, Model D, 101), Roland TB-303, Roland Jupiter X and a Moog Sub Phatty."

6 What are your favourite plugins?
MM: "**Roland Cloud 909**. The Roland Cloud is really good as it has the great quality sounds of the classic machines but is completely portable so I used this mostly if I'm away from home and need to get a groove going as it still gives some feel of the hardware.
Ozone Imager: This plugin is great for placement of sounds in the mix as it allows you to add width where necessary or, in contrast, you can quickly put a sound in mono that may have been doing too much in stereo. So I love the control it gives.
NI Komplete Kontrol. This is a super hub of sounds for me with all the great Native Instruments sound banks that live inside. I use this a lot to build on melodies and to audition different instruments when putting ideas together. Also, I use Komplete to fill in spaces with more subtle sounds like pads or sequence FX. Would definitely say this is a must have.
Arturia Mini V. I think this was one of the first plugins I ever had. I used this in 90% of my music in the beginning. It has so many classic Moog sounds inside, with all the knobs to allow you to be able to tweak and make the sound your own. The basses are rich and warm before any processing and that's what drew me to it.
Ableton Amp. This one comes standard with Ableton but it's one of my favourites as it makes things feel old and you can really drive it up to get some really out-there tones from different instruments and it's also good for just adding a little distortion where necessary."



Ozone Imager is Mason's go-to for controlling width

Mason likes Ableton's Amp for a fun bit of 'retro-ising'

"If the reaction is good, I can live with letting a track go..."

7 How do you tend to start a track?
MM: "Sometimes I might have a melody or a sample already in mind that I want to work around, but most of the time I'll start working on drums and building a strong groove as it's one of the most important factors in dance music – you're supposed to be able to dance and move to it!"

8 How do you know when a track's done?
MM: "I never really know when a track is finished as most of the time I'm trying to expand and make it as best I can. But for me I feel like they 'get away' – I may play them out and if the reaction is good then I can live with letting that one go."

9 Do you have any production tricks?
MM: "One thing I tend to do is resample sounds back into different FX units and see what comes out, then chop up and use any bits that may fit with the rest of the idea."

10 What would you like to see developed in terms of studio technology?
MM: "I think it's already happening, to be honest. Nowadays you can collab over the internet and not just sending stems back and forth. There are now plugins and apps that allow you to literally be inside the DAW of the other person while audio plays back in real time in high quality. Pretty crazy."

11 What's on your gear wish list?
MM: "It's more a case of what isn't! Since I started buying hardware a couple of years ago, it has turned into an obsession (which costs a lot). In the future I'd like to own a big analogue console like an SSL, API or Neve, so I can really sit and carve out each sound and make everything feel cohesive."

12 Which historic track do you wish that you'd produced?
MM: "Myd, *The Sun*. This is one of my favourite songs – it feels like you're in a daydream. I love the chord progression and how the notes deviate slightly off key as they're strummed. I think it makes for a really unique listen."

13 What about studio advice?
MM: "Don't shy away from expressing yourself when making music or just try something new, maybe a new genre or incorporating different genre influences into the music you make. Although music is my job, at the end of the day it's still just a hobby that I'm passionate about and I think it's important to keep that in mind."

14 Any other more general advice?
MM: "I think just to be open minded about meeting different people as there are a lot of different characters from all walks of life. Just be nice to everyone you can, as you'll attract the good energy back your way."

15 What have you got planned?
MM: "I have the new EP on Island Records with the first single having dropped with Gene Farris on the vocals. It is a club bomb and has been getting really great receptions when I've been playing it out on tour in America and, more recently, in the UK. I'd tell people to come see me play as I try to incorporate all the different genres that inspire me whilst keeping the energy and groove alive all night! In the near future I'll be launching a new label that I'll be announcing soon and dropping EPs on there and other big labels that I can't disclose just yet. Lots of music coming so I'm excited." **cm**

Mason Maynard's new track Take Me *featuring Shyam P, is out now*

HEAR MORE

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The Roland TB-303

It's issue 303 of *Computer Music* so there really was only one feature that we could lead with – one comparing and contrasting the attributes of a hardware 303 with its many software counterparts. It's time, then, to explore the finest pieces of software inspired by the legendary Roland TB-303...

> To those who know, the TB-303 is more than just an electronic instrument in a small silver box. It's an era-defining synthesiser and sequencer, which at the point of release in 1981/82, came equipped with a fashionable vinyl carry case; a must for all fashionistas! Why equip a little silver box with such a faux carry case? That has everything to do with the market for which it was designed to cater. The 303, as it is colloquially known to its friends, was offered as a solution for the discerning gigging guitarist, who didn't have any bass-playing friends to jam with. Acquiring a 303 for a mere £200 or so, you could plug up to a suitable amp, and hey-presto; bass magic! Thanks to its onboard sequencer, you could store patterns and songs, making it perfect for pub gigs and the odd bit of karaoke, which was something of a national obsession in Japan. If you were also lacking drums, the Roland TR-606 was the near-identical drum machine twin, providing a rather beautiful set of analogue drum sounds, alongside the analogue synth architecture of the 303.

Accidental happenings

If we were being a tad unkind, but entirely accurate, the 303 has been associated with many happy accidents over its lifetime. While Roland hoped that it would be embraced as a bass-line-generating synth on a budget, there are relatively few instances of this engagement.

One such outing during the 80s, came from the British band Imagination, who utilised the identifiable 303 traits on a host of hits. *Just an Illusion* and *Body Talk* both benefitted from a silky bass tone, which glided from one note to the next, thanks to the 'glide' operation instigated at the sequencer's step level. We can't even begin to imagine how long the programming must have taken; the 303 shipped with a manual that weighed about the same as the device itself, and it was pretty notorious for its labour intensive note-programming capabilities.

To be blunt, the 303 was a commercial flop. It was relatively cheap to begin with, but towards the end of its technology tenure, you could pick up a new 303 for next to nothing. Used prices fell even lower, and that's when a curious new breed of producers began to plunder the 303's depths, for a typical cost of around £25 in the second hand ads.

> "TB-303s change hands for many thousands of pounds despite there being abundant emulations"

Happy accident number one occurred with the 303's reassignment to a new genre of music known as acid house. DJ Pierre, from the band Phuture, got his hands on a 303, and started noodling with its sequencer and synthesis capability. The squelchy and resonant sounds that emerged were exaggerated further, through the application of overdrive and distortion, helping to define the repetitive sound of an era. With the release of the EP *Acid Tracks*, the architecture and new sound sealed the fate of an exciting and novel genre.

Given that the 303 was more difficult to program than an early video recorder, further happy accidents emerged via the sequence of random notes, entered into the onboard sequencer. As one respected industry pro once commented, "have a play around, and if it doesn't sound any good, just go again!"

It's something of a credo for the early sound of acid house and techno, emanating from Detroit, which inspired a post-punk generation to simply get on and do it, with whatever they could lay their hands on.

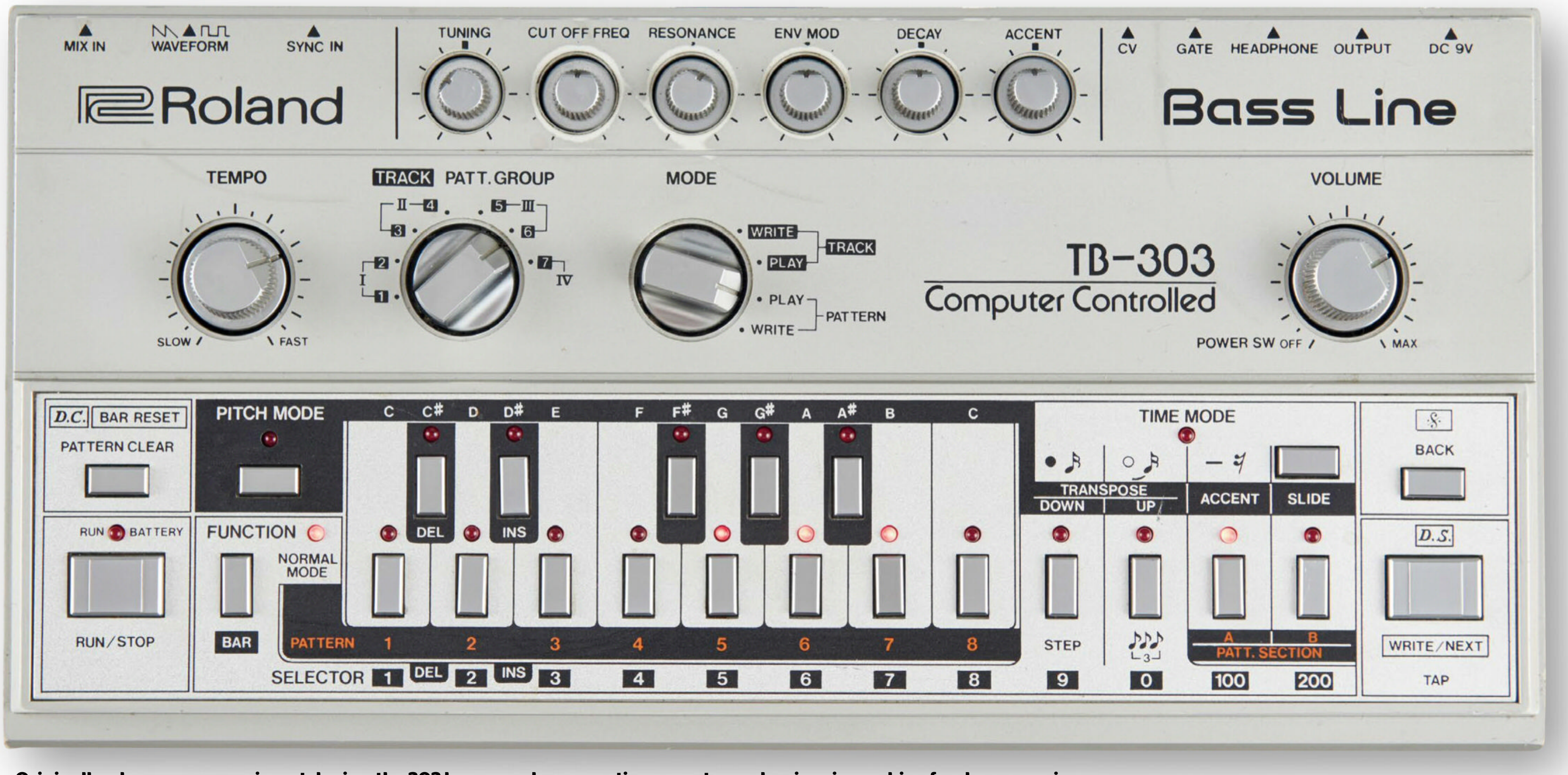
Antiques Roadshow

If you happen to find a 303 in your attic, you could be forgiven for thinking that nobody could possibly want such an outmoded piece of kit, but you'd be wrong. TB-303s regularly change hands for many thousands of pounds, despite an abundance of both hardware and software to emulate the original.

The company that arguably equipped the house genre with all its sonic requirements, Roland, released a digital incarnation of the 303 in hardware form, a few years back. The size and scale of the redesigned TB-03 were kept much the same, but by placing it in a digital domain, that made it pretty impossible to tell it apart from an original, and without the ageing components to let you down. Moreover, Roland improved its programming workflow, making it easier to use, while maintaining its sonic identity.

This hardware has now been ported to software, allowing us total control of this industry stalwart, in the convenient format of a plugin, as part of the Roland Cloud.

Don't take our word for it! We've compiled some loops and phrases from a real 303 and put it to the test against the software. But which 303 will reign supreme?



Originally a bass accompaniment device, the 303 became a bass-creating monster and an iconic machine for dance music

303 software versions

Fancy getting some of that Roland Bassline, filter-squelch in your tracks? Help is available at numerous price points. You simply don't have to part with thousands of pounds for an ageing second hand 303, to include that spirit in your productions…

The original innovators

Roland had been asked to reproduce the original TB-303 for many years, and they responded with the amazingly cool TB-03. Residing in their popular Boutique form, the original 303 form factor lends itself perfectly to the Boutique dimensions. It's more or less the same, but now with added connectivity, like USB for audio and MIDI, a cool little kick stand, and an internal speaker, should you want to take it on the move. Roland also improved the sequencer programming, while maintaining a traditional sequencer mode for the original devotees. Finally, they added overdrive, making it sound incredibly familiar from source, along with a backend delay.

The great news for us desktop-devotees is that this Boutique brilliance now establishes itself as part of the Roland Cloud, allowing access to an improved sequencer mode, which makes exceptionally light work of programming all those 303-style curios, such as accent and slide. Accessing these programmable step-elements is simplicity itself, thanks to the included elegant editor, which drops open beneath the main sequencer keyboard. This means it's incredibly easy to see what you're doing, at the step level. You never have to scroll through individual steps in the same way again.

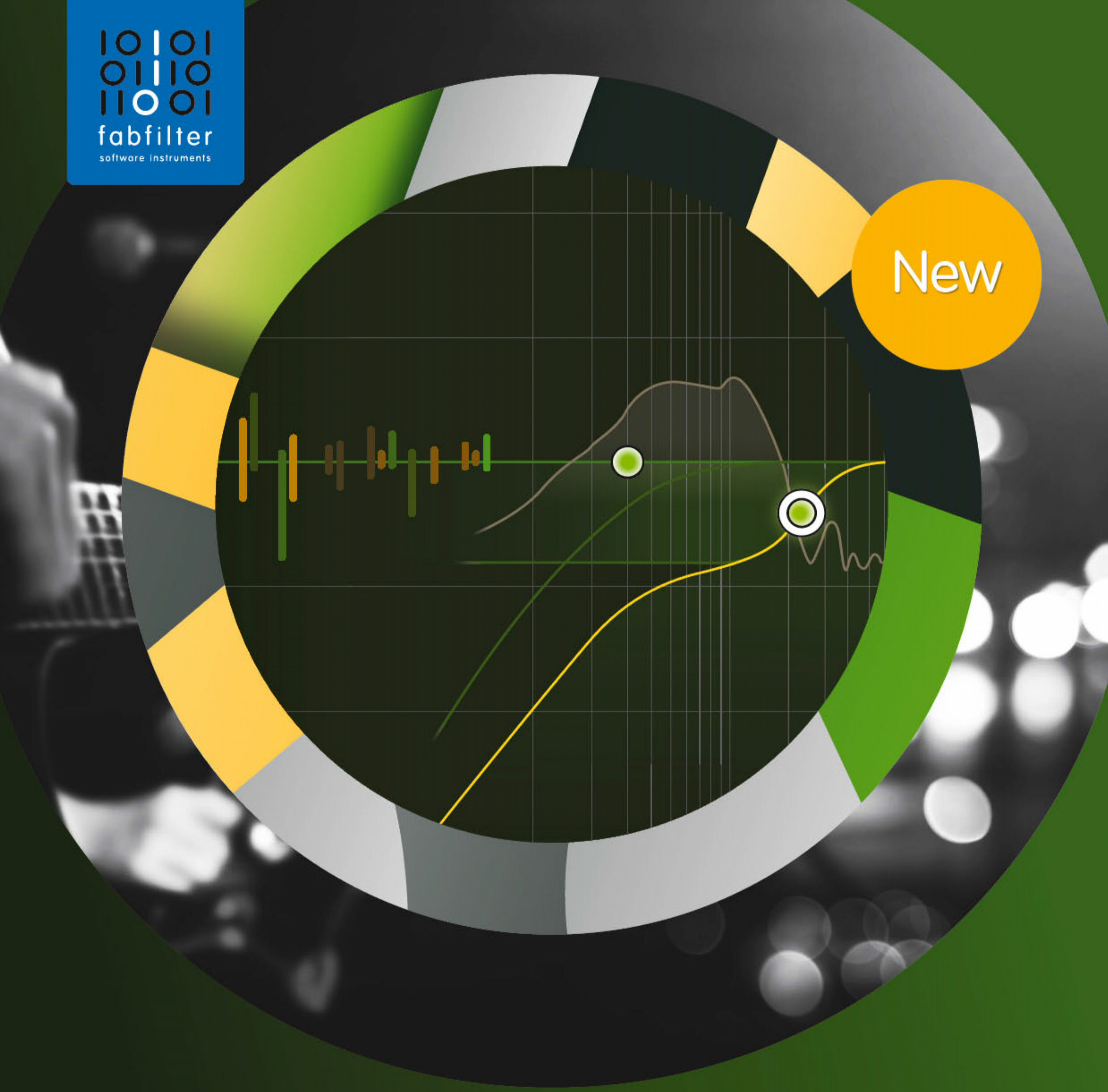
Moreover, it sounds exceptional; Roland's take on fashioning their vintage instruments in software is masterful. As a rule, they like to model their synth-engines to sound like the desired device, before suffering at the hands of component degradation over time. If you were in a position to line up more than one original 303, you would find that they all sound subtlety different, and Roland explore this territory by modelling the sound on a cross-section of devices, ensuring that the software sounds as you would effectively like it to.

There's also the inclusion of a Condition pot, which allows you to virtually age your 303's components. We like that! Like many of the other Roland software clones, it's a classy product which is well thought out, and sounds pretty amazing.

The Roland Cloud is an exceptional route for placing some of those Roland classics right at the heart of your DAW. For a mere $99 per year, you can activate two of Roland's plugins, from a very extensive list of classics. You can also purchase the cloud-based 303 outright as part

Roland's Cloud-based 303 has even more flexibility

And the TB-03 does it all in hardware



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of a lifetime licence, for $149, or for $199 per year you can subscribe to all of the Roland plugins in their Cloud suite, on a rolling subscription. If you think you might use these instruments quite a bit, we think that's a real bargain! Who wouldn't want to pair a TB-303 with a TR-808 or 909 and throw in a Jupiter 8 and Juno 106 for good measure? Why not!?

The great imitators

While Roland have maintained the 303 yardstick by which others may be judged, there are plenty of facsimile contenders to suit all styles and pockets. Many artists cite a preference, despite having previously been reluctant to shift their allegiance from the original hardware.

Phoscyon, from D16 software group, harks back to 2006, but it is still a highly respected software incarnation. D16 describe it as '...the legendary silver box, rocketed into the future'. While that may be, Phoscyon maintains the same sonic architecture, with both saw and square waves up front, and an unashamed 18dB/oct filter. Along with the inbuilt sequencer, there is also an incredibly useful arpeggiator, with seven pre-defined modes and one user-defined. It's fully controllable via MIDI CC, offering the ability to trigger via DAW or run the internal sequences in sync with your DAW. One area which is usefully exaggerated, is the Distortion section. Equipped with six different pots, you can introduce clipping, brightness and even density, right from within the plugin, for the classic 303 acid sound. In line with the 303s original 'accidental' persuasions, D16 have also included a randomiser, so you can throw that virtual dice and stick, or try again! All of this is available in VST2/AU form for the sensible sum of just €59, directly from www.D16.pl.

Audiorealism offer another cost effective alternative; Bass Line 3 (ABL3) is another VST2/AU plugin version, which boasts '...the most authentic emulation possible.' For a one-off price of £89, ABL3 allows DAW or sync-based triggering, with an amazingly authentic sound. However, one aspect that we enjoyed about this plugin is its editor view, which in line with the Roland plugin, makes exceptionally easy work of the step-input-side of the programming. Thanks to a click-box per step, you can simply

D16's Phoscyon (top) and Yooz Music's BL-303 freeware

punch accents and slides, at the step points where you want them. We also really like the slightly uncluttered form, which clearly bears a resemblance to the original device.

Our final contender comes from YoozMusic.com and falls into the freeware category. Although the BL-303 lacks an onboard sequencer, it does offer a decent passing resemblance to the original 303's internal synth circuitry. Now in its version 2 state, the addition of some clever programming from within your DAW will yield effective 303 imitations. Varying the length of note in your DAW, will alter the nature of the 303's gate, while the simple alteration of velocity note value will dictate whether elements like accent and slide are present. It lacks an overdrive circuit, but it does mimic basic 303 elements, controlled through pot variance. Available in plugin form for AU/VST, it's the perfect budget route to 303 glory.

Audiorealism's Bass Line 3 (ABL3)

Engineered better

AUDIENT

You can't unhear quality

Classic 303 Sound – Josh Wink

Many tracks feature the 303, so we thought we'd make a classic patch with the TB at the heart of the song's hook. Inspired by Josh Wink, let's go to a Higher State of Consciousness…

> Step by step

1. Making a Josh Wink-inspired patch

1 > Before we can work with the stunning Roland TB-303 plugin, we need to open a DAW and load an instance of the plugin. We're going to program a 16-step sequence within the plugin, so the DAW will service our other instruments and transport controls.

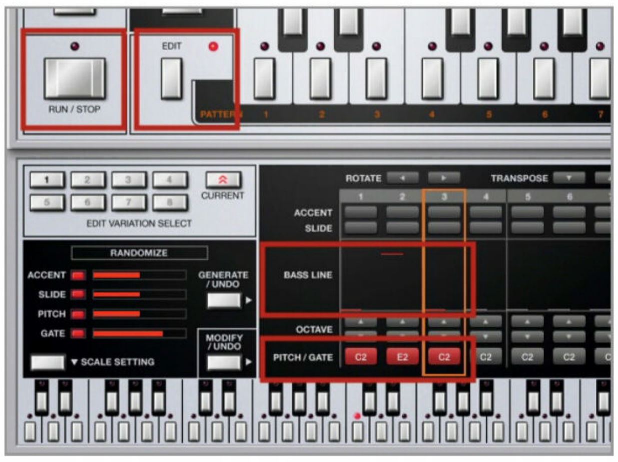
2 > As we're going to program both a sound and a sequence, we'll need to start from an unused patch. Head to the Pattern and Patch selection menus and select an unused patch/pattern, from both sections. Save your patch and sequence as you go, by pressing the Write button.

3 > The 303 is a simple beast, in terms of subtractive synthesis, and our patch begins with a simple sawtooth waveform. This is set via a basic Selection switch, located on the upper-left of the plugin window. The Saw is richer by contrast to the slightly hollow-sounding Square.

4 > We're going to make an adjustment to the filter; even though we will use the 303's onboard sequencer, you can still audition your patch from your controller keyboard. Adjust the filter Cutoff to around the 10 o'clock position. It'll sound quite dull, but not for long!

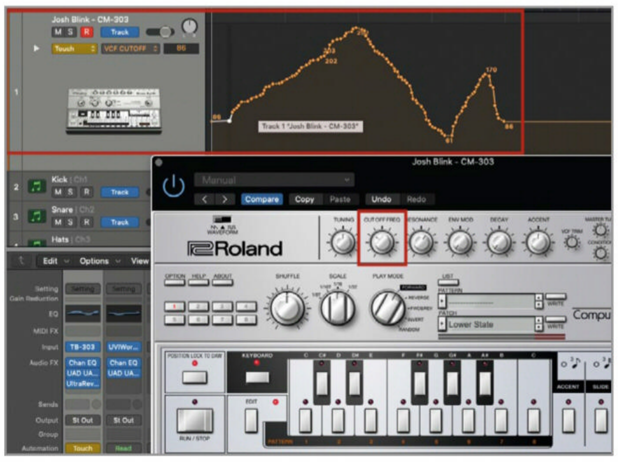
5 > The element that reveals the 303's 'Acid' sound is the resonance, which forms part of the filter circuit. Place the Resonance pot at the 1 o'clock position, and you will begin to hear the signature 'squeal' that we need for our track.

6 > The last element requires the use of some Overdrive, which is built into the plugin. You can reveal the Effects section from the Panel button which is located top/right. Select the Metal (MT) Overdrive by altering the pot, while turning up the depth control to the 12 o'clock position.



7 > Now turn to the sequencer notes. Open the sequencer section by clicking on Edit, next to the keyboard. Activate notes by clicking on the Pitch/Gate buttons, adjusting the selected note pitch by dragging up/down in the Bass Line section. Audition your sequence by pressing the Run/Stop button.

8 > One unique element of 303 operation, is the ability to both accent individual notes and slide from one note to the next. Pressing these buttons on the sequencer steps will incite the notes to react accordingly. You can also extend a note length, by using Slide with two notes of the same pitch.



9 > The sequencer section is an important part of the 303's sound, so employ up to 16 steps to get that Acid effect. It's also important to automate the filter Cutoff within your DAW, in line with the rise, build and fall of your track, much as you find in the original song, from where we're drawing inspiration.

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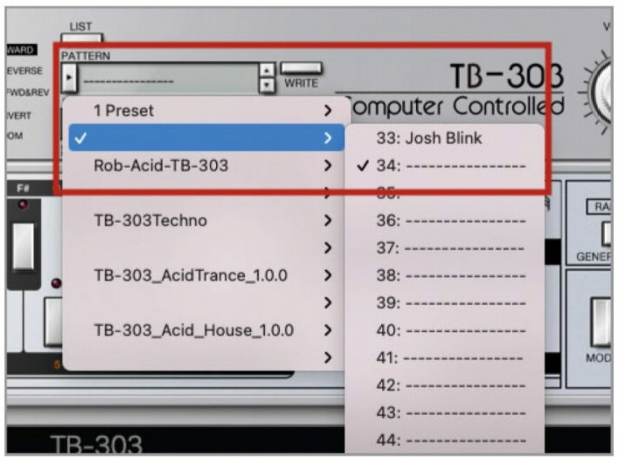
Bonus 303 patch - random envelope mod patch

For our second patch, we'll explore the Roland 303 plugin's on-board modulating envelope, to add punch and resonant squeals. Plus: how to get the Sequencer to generate patterns...

> Step by step

2.Exploring the 303's modulating envelope

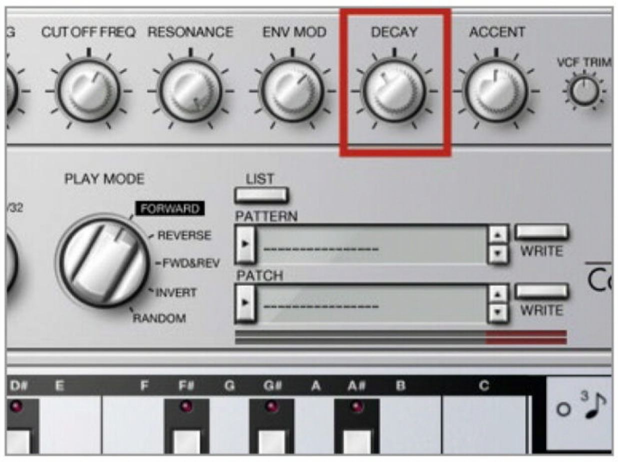


1 > Just as we did before, load up the 303 in your DAW, and select an unused Pattern and Patch from the drop-down menus. Because the sequencer is empty, you will have to trigger your sound from your keyboard, to audition your sound, at least for the moment!

2 > As we're looking to keep with something classic, we're going to stick with the marginally richer sound of a sawtooth. Do feel free to experiment with the Square, but for our purposes, the Saw will be more appropriate.

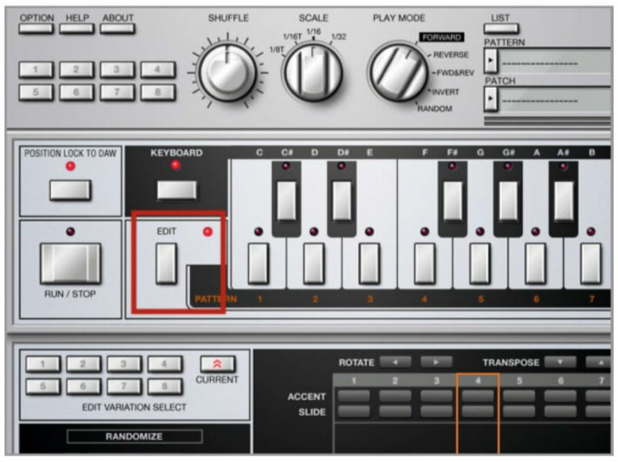
3 > With this patch, we're going to drive the filter a little harder; set the Cutoff to around the 1 o'clock mark, but this time set the Resonance to the absolute maximum. This should result in a whistle-like sound.

4 > The 303 comes with a very basic single-stage envelope, offering control of decay, but engineered exclusively for modulating the cutoff as part of the filter. Adjust the Env Mod pot to 1' o'clock. This will dictate the amount of modulation that's being applied.

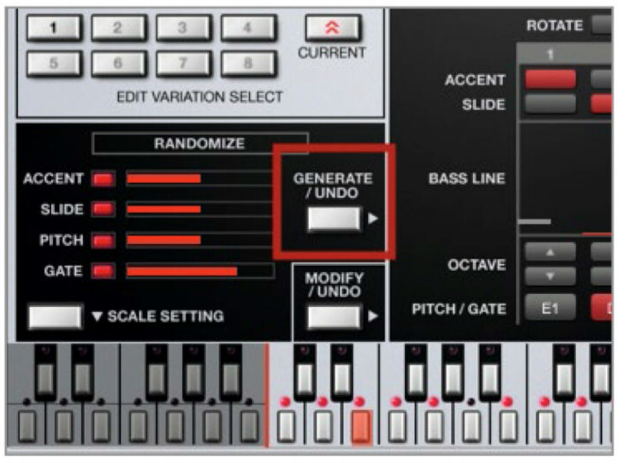


5 > The Decay pot controls the length of decay phase being applied to the cutoff. As a starting point, place it at around the 11 o'clock position, which will still keep the decay phase relatively swift.

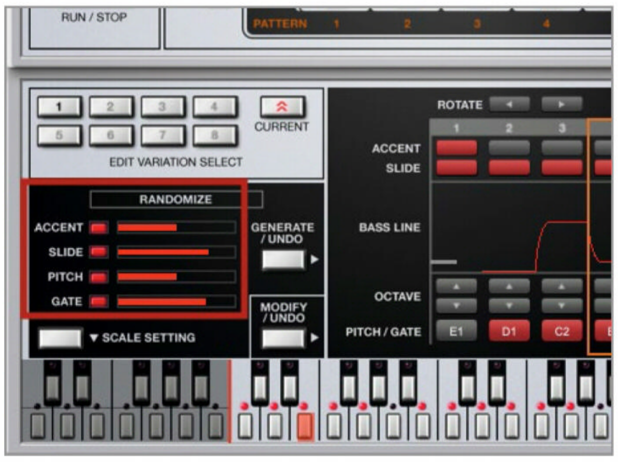
6 > In order to exaggerate the filter resonance, we'll apply some distortion to the signal. Open the effect section and select Distortion, via the Drive Type pot. Then increase the Depth by placing the pot at around the 2 o'clock position.



7 > We're going to use the 303's onboard sequencer again, so open up the sequencer section, by clicking on the Edit button, located next to the main keyboard. The Sequencer should reveal itself below.



8 > If you're not so good at programming notes, or want some inspiration, using the Random sequencer option could be perfect for you! Merely press the Generate/Undo button, for an instant set of notes, glides and accents!



9 > Once you have your randomised sequence in place, you can edit and tweak to suit your needs by muting or editing notes and accents. Try exploring the Randomize elements; each of the four elements can be accentuated or reduced, by dragging the appropriate line.

EPILOGUE

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Ten 303 tracks you need to know about

The 303 gets a starring liner-note credit on all of these iconic tracks...

Peter J Walsh/PYMCA/Avalon/Universal Images Group via Getty Images

01 VOODOO RAY
A GUY CALLED GERALD

Released in 1988, Gerald Simpson's influential release is widely acknowledged as one of the first successful acid house tracks, and an example of what could be achieved with minimal equipment. Recorded over two days at Moonraker Studios in Manchester, the combination of TB-303, Roland TR-808 Rhythm Composer and Akai S-950 sampler confirmed how basic equipment could, with a little inspiration, result in a huge hit. The vocal, supplied by Nicola Collier was sampled and chopped, to become one of the song's hooks, alongside the recognisable 303 sequence.

02 A HIGHER STATE OF CONSCIOUSNESS
JOSH WINK

Harking back to the mid-90s, *Higher State of Consciousness* combined the relentless house-sound of the Roland TR-909 Rhythm Composer with two original, and totally unmodified 303s. The identifiable sequential squeals push the track to an extreme. A classic example of a 303 coupled with distortion, which has become such an essential trademark of a musical era and the machine itself.

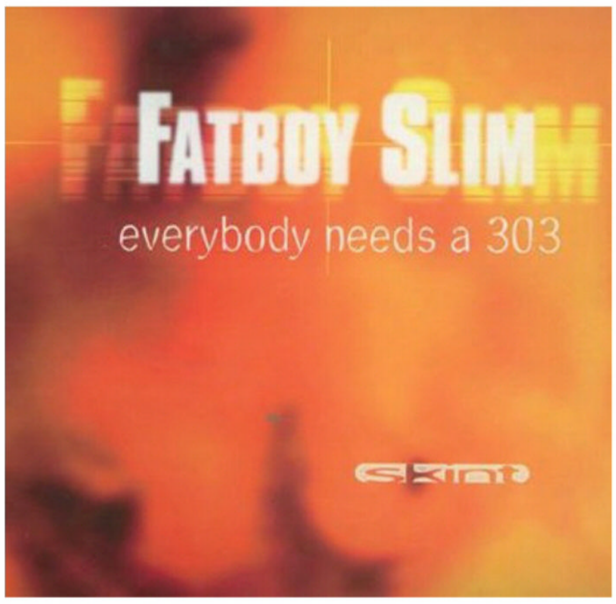
03 ACID TRACKS
PHUTURE

This collaboration between DJ Nathan Pierre Jones, Earl Smith Jr and Herbert Jackson turned the accidental 303 noodlings of DJ Pierre into an acid house track, which is also regarded as being one of the first of its kind. Produced by Marshall Jefferson, *Acid Tracks* became a firm fixture on the playlist at the Haçienda in Manchester, confirming the acid house inspiration emanating from Chicago.

04 EVERYBODY NEEDS A 303
FAT BOY SLIM

If there were ever a track to nail its colours to the mast, Norman Cook's cut was it. *Everybody Needs a 303* is taken from the Fatboy's debut album, *Better Living through Chemistry*, but in its first incarnation as a single, barely troubled the UK charts. A remix/retitle delivered more commercial success, but still only topping No.34. Regardless, it's still an anthem with designs on the TB bassline classic.

Josh Wink, *A Higher State of Consciousness*



Fatboy Slim, ***Everybody Needs A 303***

05 *ACPERIENCE 1* HARDFLOOR

German techno and trance artists Oliver Bondzio and Ramon Zenker formed Hardfloor in 1991, producing the acid house classic *Acperience 1* in 1992. Unapologetic in its 303 usage, Hardfloor are infamous for possessing up to six different 303s. At today's prices, that's quite an investment, but essential as the main element of their acid sound.

06 APHEX TWIN

It surely won't come as a huge surprise to learn that Aphex Twin aka Richard D James, has used the 303 in several guises throughout much of his output, although it's pretty likely that any of his own 303 will have been modded or butchered, thanks to his incessant desire to breath new life into old products. Listen to the infamous *Windowlicker*, but in its Acid Edit version, for evidence of 303 application, after the initial construct.

07 *CHIME* ORBITAL

While Orbital own a 303, its placement is seemingly less obvious. Their wondrous track *Chime*, while mostly based around pounding basses and samplers, employs the 303 later in the track, providing a counter-melody to the infectious repetition of the opening 10th and riff-laden construct.

Chime **by Orbital**

808 State

Johnny Greig / Alamy Stock Photo

09 *PACIFIC – 303* 808 STATE

Although it's unclear if this track contains an original 303, its title is an unbridled nod toward the Roland product range. The sustained soprano sax, blissfully wailing against a TR-909 drum pattern spawned a series of remixes, with accompanying numbers, such as 202 and 707. FYI the MC-202 was a follow-up Roland product, unfairly regarded as the poor-person's TB-303.

08 IMAGINATION

80s band Imagination were famous for their outrageous sense of dress, coupled with a unique sound and style which featured an identifiable bass. While many assumed this was some form of fretless, it was in fact a 303, sequenced with a far slower setting and pace than we might be used to, with glides at almost every turn. In many respects, it's what the 303 was originally designed for!

10 *RIP IT UP* ORANGE JUICE

Scottish band Orange Juice, fronted by guitarist and singer/songwriter Edwyn Collins, are the second act in our list to use the 303 as an actual bass synth. The heavy-squelch of the bass in *Rip it Up* is a result of the 303's punchy resonance, coupled with a snappy but basic decay setting. There's almost as much high-end frequency in this bass sound as low, but it's a catchy signature for a song that hit a top spot of No 9 in the UK chart.

Conclusion

Given its humble roots, it is hard to overstate the allure of the TB-303. As a bass synth, it's perfectly adequate, but it does lack the more complicated synthetic architecture found on its brethren, the SH-101.

We have to balance our arguments for and against original TB-303s by breaking things down into three distinct arenas. Firstly; sound. As a basic synth, it sounds very fine, in part due to its diode-ladder filter-based design, which operates in 4-pole/24dB mode. Many aficionados report that it exhibits a slight quality reduction, closer to 18dB, but this may well be down to component degradation over time. It only offered saw and square wave sound sources upfront, but when you add in the decay-based filter modulation envelope, you have a simple trix-ter which just does what it does.

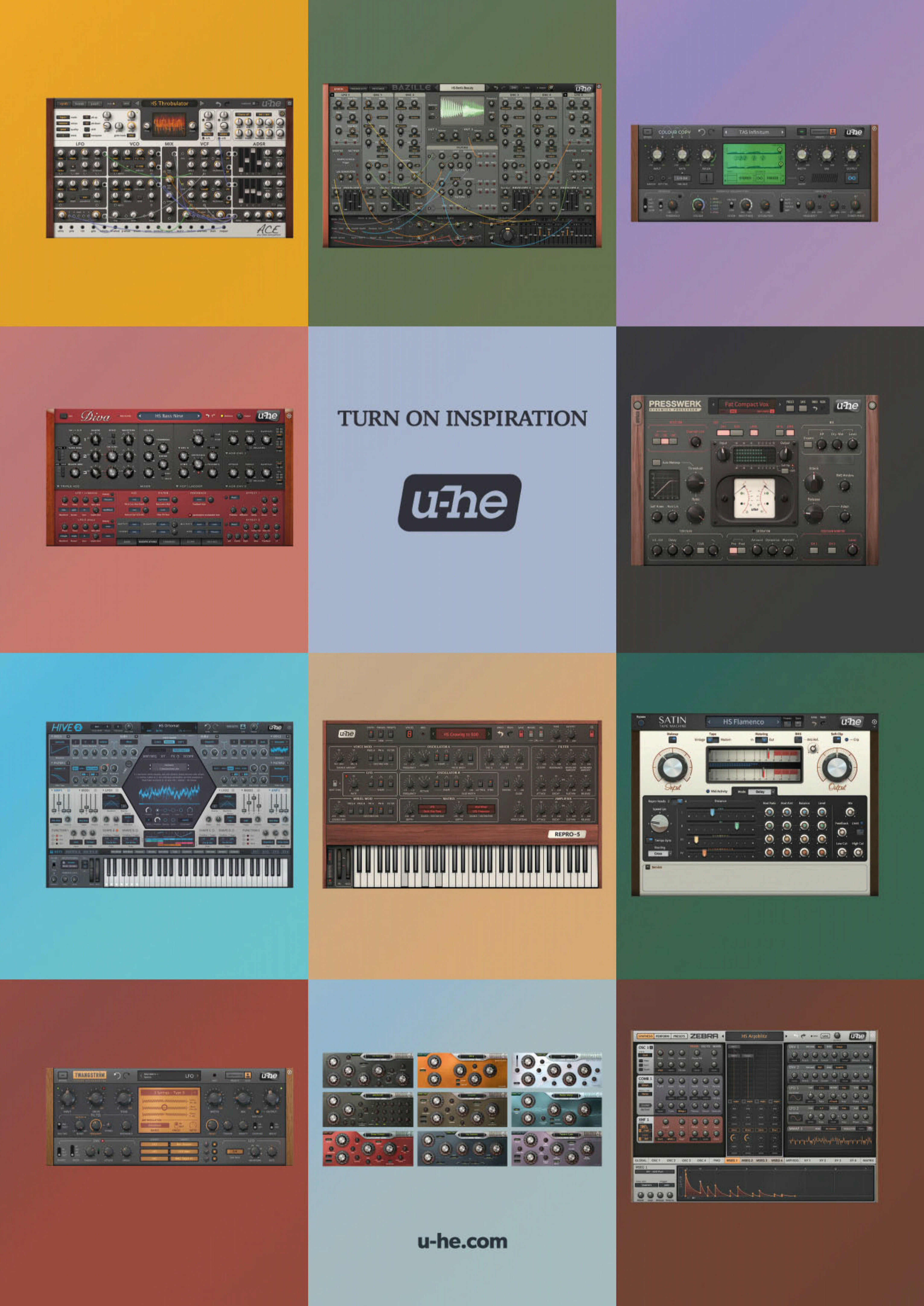
That is, until you add the second of our elements; the sequencer. Allowing basic step editing of notes, which can be stored as patterns and ultimately chained together to form songs, the onboard note-organiser is notoriously hard to work with, which might explain why so many chose to work with a single bar in a loop or pattern. But, it's the combo of note input, ability to add rests, and then slide from one note to another, that throw open the character of the 303. Synchronising an original 303 to your track was never going to be easy. There is a 5-pin DIN connector onboard, for an old sync protocol known as Sync 24. It also offers CV and Gate outputs, so if you did manage to grapple the sequencer, you could send those notes to another dimension. However, if you owned other Roland products from that time, such as the TR-606 Rhythm Composer, you were in luck! Pure synchronisation was a cable away, but even then, it often exhibited issues, such as the lottery of both sequences starting on the first beat at the same time.

> "Which sounds best? Only you can decide!"

Sync issues aside, you only need to add the aforementioned, envelope-laden filter, and an overdrive or distortion pedal, and you'd gain the iconic sound of the 303. We say iconic, but it never started that way, which leads us to point three; style, genre, time and place! If it hadn't been for its failure within its intended domain, it wouldn't have been sold off as cheaply and no kids or bedroom producers could have picked them up from the bargain bins, resulting in the groundbreaking genre of acid house.

We started our exploration into the 303 by describing it as a machine based around happy accidents. That machine ultimately became the machine of kings! Long live the 303...

Finally, we've curated some loops from our friends at Loopmasters, all created on original 303s, and then placed the latest Roland software version of the instrument up against them, so you can hear the difference... or not! Which sounds best? Only you can decide! Download the audio from filesilo.co.uk. **cm**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Create a great guitar sound Part 2 – the tone

In any guitar recording situation, your first consideration is just how you want the guitar to sound in the mix; are you after bright chiming chords? Distorted riffage, ethereal washes or soaring solos? Whichever way you'd like it to sound, building your own unique tonal palette is part of the fun of being a guitar player – while a gamut of software suites are on hand to enable you to sculpt your tone

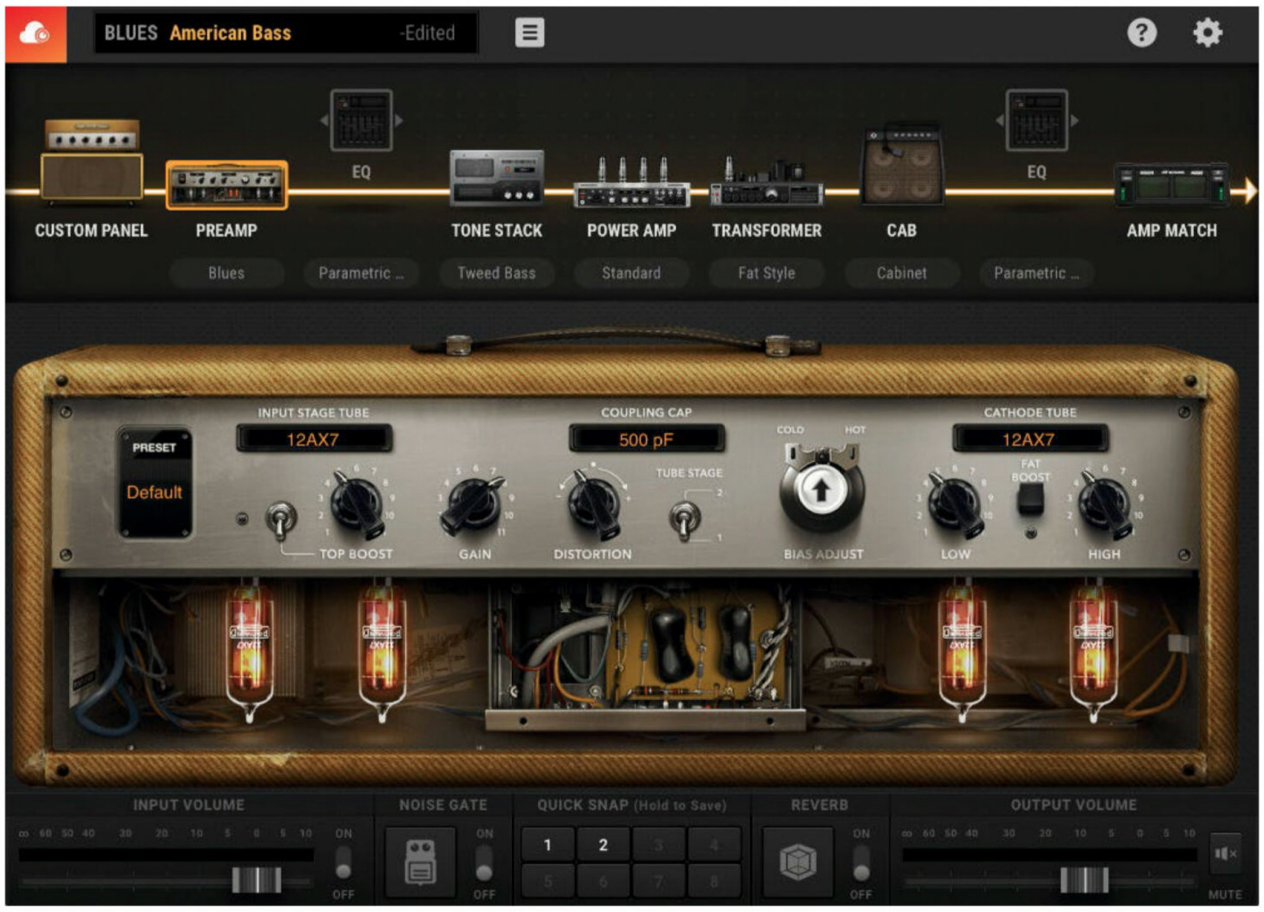
> In the first part of this feature we looked at some of the many options available to non guitarists after a quick guitar fix sound, all by way of software and samples. For this next instalment, we're focussing on the actual sound of the instrument and how it can be shaped in many different ways.

Achieving a powerful and entirely distinct guitar tone is now well within reach for home guitarists, while those looking to add some six-string garnish to their sparkling soundtracks have a plethora of options to choose from.

A guitar tone has traditionally been the multihued result of amplification and effect variations, a signal path that is now entirely virtually available in software form (but just don't tell the unconvinced, old-school guitar-heads that).

As the field is vast, you need to lock down some key decisions early. Do you want the guitar to be the centrepiece of your arrangements? And – if so – are you after adding some fiery rock edge, or some harmonious acoustic layers, or perhaps soul-touching subtle delays? To incorporate full-bodied, solid rock chops, you have two routes. If you've got a pre-existing rig, then you can either mic up your

> “There are those who decry the digital age’s infringement on the arcane world of tone-building”



Positive Grid BIAS Amp 2 – looks like a real amp but is BETTER

physical amplifier and connect your XLR(s) through a low latency interface or – more conveniently for many – direct input your instrument directly into your interface, and gradually work on your instrument’s tone using software. Though there are those who decry the digital age’s infringement on the arcane (read: restrictively expensive) world of tone-building, the truth is that today, software allows for not just indistinguishable reproductions of those venerated amps, but also – dare we say it – a much broader range of fine tuning capabilities.

Biased much?

Take BIAS Amp 2 from Positive Grid, a software amplification designer which contains remarkably accurate models of a range of choice amps. However, the software’s key USP is the way in which it allows the user the ability to take apart the inner workings of a virtual amplifier at a component level, encouraging users to re-arrange switch tubes, preamps, transformers and a whole lot more.

Obviously, doing this with a real amplifier would take days, be rife with difficulties and require a significant amount of mechanical know-how; BIAS Amp 2’s simple drag-and-drop interface allows you to quickly rip out the innards of the virtual amp and build something potentially impossible in the real world. A top-down, drag-and-drop signal chain is something also offered by IK Multimedia’s expansive suite AmpliTube 5. While we’re not able to get inside its virtual amps in the same level of component-switching detail, we are offered the opportunity to fashion some interesting combinations via the mixing and matching of amps, cabs, effects and – all new in version 5 – a top-down routing pathway that allows up to 57 simultaneous virtual elements to work in tandem to make entirely new sounds. Rather than being a pale imitation of physical amplification then, the contrary creative benefits that the virtual world now affords way exceed what was possible in the solely physical world.

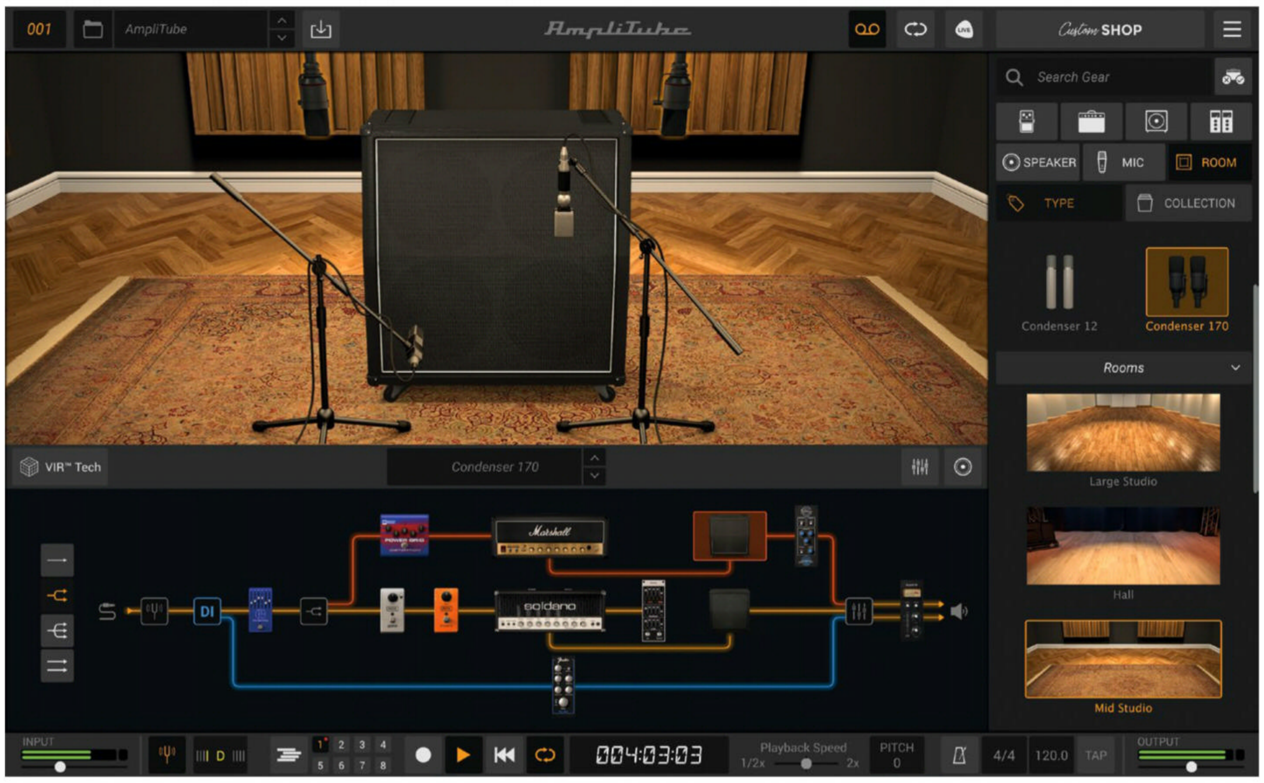
Impulse power

We’re not saying that if you’ve already fashioned a custom tone using physical amps, cabinets and microphones in a space that you know produces a solid tone, then you’re excluded from this software ecosystem. There’s a way to transport all that real-world personalisation to the software universe without even having to carefully mic-up each time you want to record guitar. Both Positive Grid’s BIAS Amp 2 and AmpliTube 5 feature custom IR loaders. IRs (Impulse Responses) enable you to feed in a recording of your own rig in situ in your rehearsal space or studio of choice, and for its unique tonal characteristics to be intelligently analysed and captured, it’s actually quite a similar principle to how samplers operate. With your lovingly crafted amplifier and room tone now loaded into software, you can explore further processing.

Whether you’re using a hardware amplifier, or a virtual reproduction, tweaking the amp’s EQ controls (typically Treble, Middle and Bass) to taste is crucial in determining the guitar’s resultant tone, but the choice of cabinet, microphone and room wherein they’re positioned can be just as important. While modern software allows you the option of loading in your own real-world sounds if you have them, getting a handle on virtual cab selection (and mic positioning) is paramount to achieving a pro sound.

It’s worth noting the fact that preloaded IRs don’t allow you to adjust the mic positioning after they’ve been loaded (as that’s a characteristic saved within the IR itself), whereas virtual cabs and spaces, such as those offered up by Softube’s exquisitely modelled Amp Room, provide massive scope for moving the mic at any stage of the process, as well as balancing the signal from two different virtual mic positions. Softube are also Marshall’s official software partners, so if you’re hankering for the heft of legitimate Marshall cabs, this is the software solution for you.

Elsewhere, Line 6’s Helix Native takes the company’s acclaimed series of DSP pedalboards and compiles them into plugin format. With more than 100 effects, 60 amplifiers and 30 speaker cabs, its promise of intuitive tone editing is definitely an enticing prospect.



IK Multimedia Amplitube 5 lets you mix ‘n’ match gear combos like some kind of filthy rich studio mogul

If you like big brand names, Softube Amp Room is the (virtual) place to be

AmpliTube 5's virtual room modelling (done via its 'volumetric impulse response' or VIR technology) is second to none, however. All of the virtual cabinets within the suite have been re-modelled using this astounding tech, which enables 600 impulse responses per speaker. This basically means that even the subtlest of tweaks has a bearing on your guitar sound. Finding that 'sweet spot' – another ability once thought only to be the province of 'real' guitarists – is completely achievable with this technology in play. Coupled with this is a straightforward mixer that enables the blending of room sound, microphone volume and panning as well as FX insert volume. Tone-crafting with AmpliTube 5 is endless.

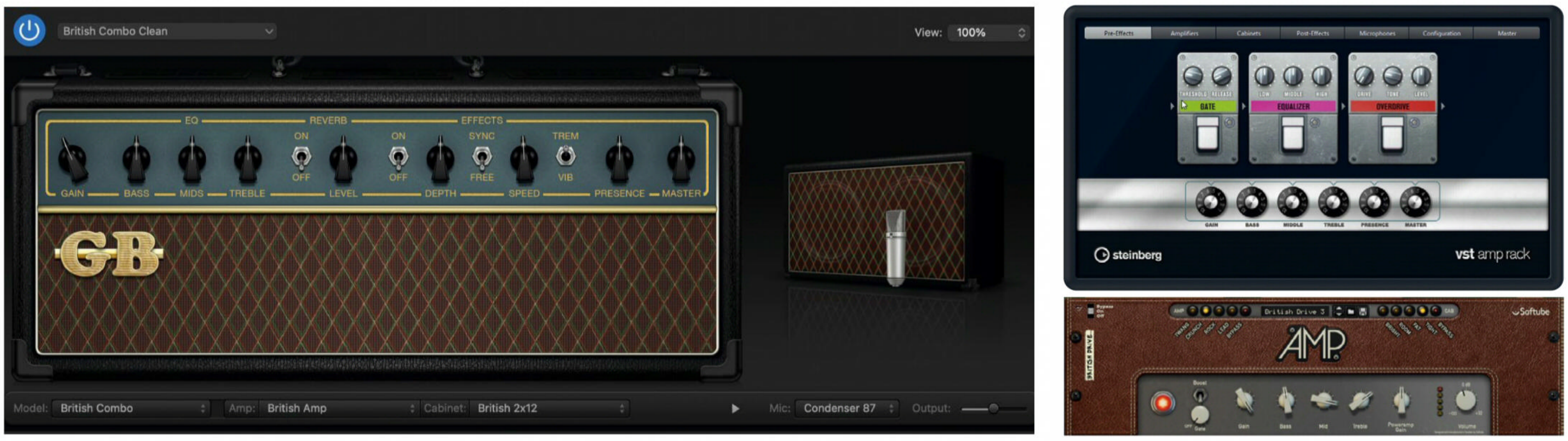
Careful with that axe

While dedicated amp simulation suites and guitar effects plugins are widespread and certainly worth investigating if you're going to be using more guitar in your tracks, you may already have what you need right under your nose, in the shape of your trusty DAW. Logic, Ableton Live, Reason and Cubase all sport ready-to-go guitar preset tones to flavour your DI'd instrument. Logic Pro X's Amp Designer plugin provides access to 20 virtual versions of amps and their respective cabinets, while seven different mic types are positionable in a typically straightforward-to-use fashion.

> "You may have what you need right under your nose"

Long considered to be strictly for electronic music makers alone, Live's guitar-shaping capabilities have come a long way over the last few years too, with the addition of amp models and cabinet folders under its Audio Effects category. Reason's incorporation of Softube's Guitar Amp means that the latest version of the DAW is well equipped to bolster your axe's sound with a Marshall-stamped edge, while the ever-formidable Cubase is live instrument-tailored from the outset, with its VST Amp Rack plugin enabling the design of a robust virtual signal chain.

The options are plenty then, however you want your guitar's tone to sound. That ultimate tonal call is down to you and should be adjusted to fit within the track context where it can comfortably bolster the sonics. While guitar tone is crucial, it's in the effects domain where things really start getting more colourful.

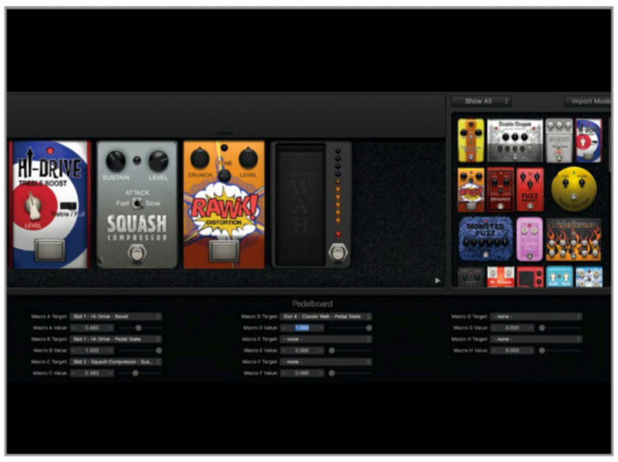


Logic Pro X's Amp Designer, Cubase VST Amp Rack and Reason's integrated Softube Guitar Amp: great in-DAW options

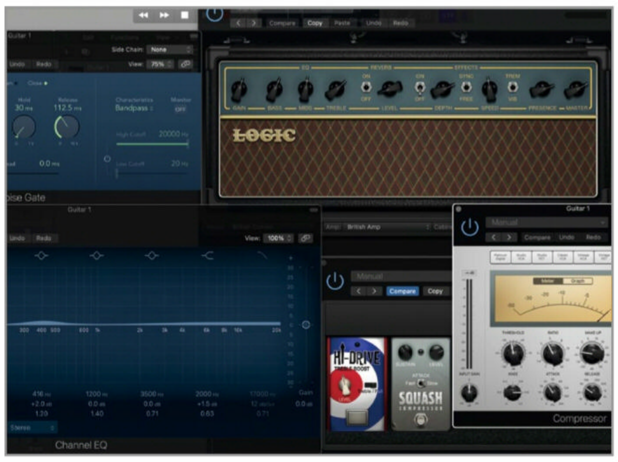
> Step by step

1. Working with guitar in Logic

1 > Before plugging in, you're going to need to check that your interface has a Hi-Z input as opposed to a standard mic input. The Hi-Z input increases the impedance of the signal; without it, your instrument sound won't be as pure. Our Scarlett 18i8 accepts both XLR and high impedance signals.



2 > Logic is a perfect DAW for guitar recording, and comes preloaded with a mountain of guitar-tone modifying abilities. While it may be tempting to reach for Logic's preset guitar plugin choices and run with their recommended EQs, it's better to get to grips with them manually. Select the 'Guitar or Bass' option from the initial window.

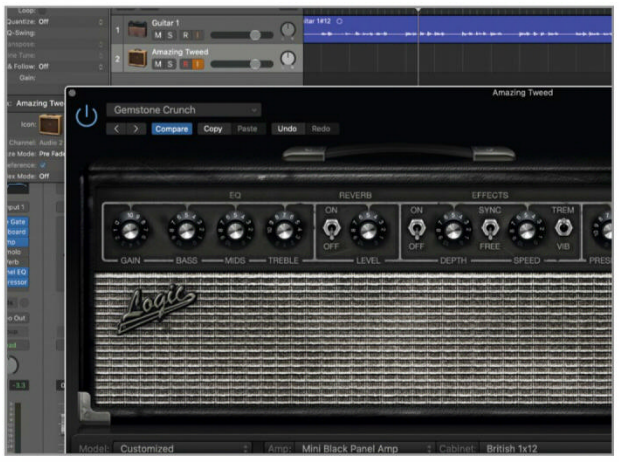


3 > You'll notice that Logic instantly loads up with a tone preset from its Amp Designer, and a range of predetermined Compressor, EQ, and Gate settings, as well as a couple of (initially de-activated) pedals via its virtual pedal board. These elements are the core of getting a great sound with Logic.

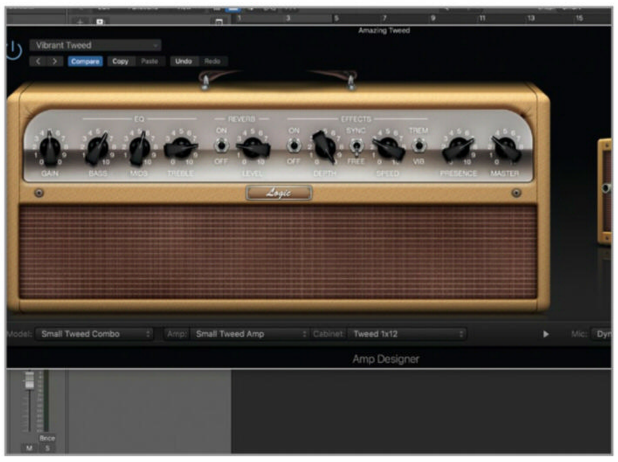
4 > The Noise Gate is where you can determine the volume levels that are allowed to be captured and set at a determined threshold. With strummed guitar, it's recommended that you try and remove as many harsh transients as possible; therefore, set your threshold to around -20dB as a starting point, and work down from there.

5 > Logic's Channel EQ is a vital tool when it comes to the mixing stage, as it can help you find your instrument's frequency space, and chip away at competing frequencies so each track element sits in its own designated frequency area. You'll generally want to start trimming out bass frequencies under 100Hz

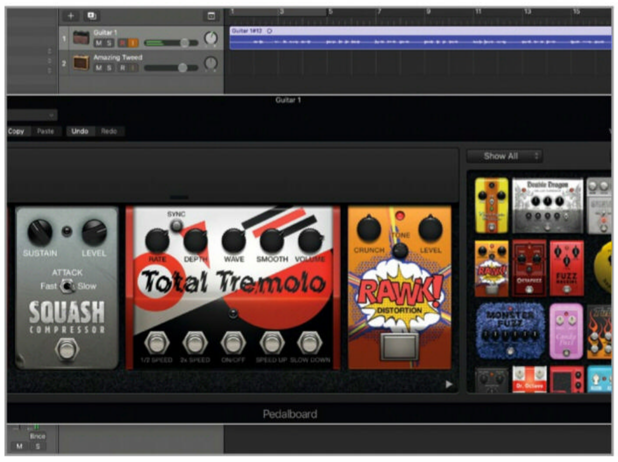
6 > The seven analogue modelled compressors within Logic are great for punchy signal boosting, imparting a classic warmth and further taming your frequencies. For chord strums, we set our Attack and Release time to between 10 and 50ms respectively, a 2:1 ratio and reduce input gain to around -5-10dB.



7 > Logic's Amp Designer is where much of the real magic happens. It allows a range of virtual amps and cabs to be selected, with a virtual output picked up by a virtual mic. All amps feature reproductions of control knobs and the main tonal controls are often joined by authentic-sounding modelled effects, such as the Small Tweed Amp's retro-flavoured tremolo and vibrato, which can make your sound even more sweet.



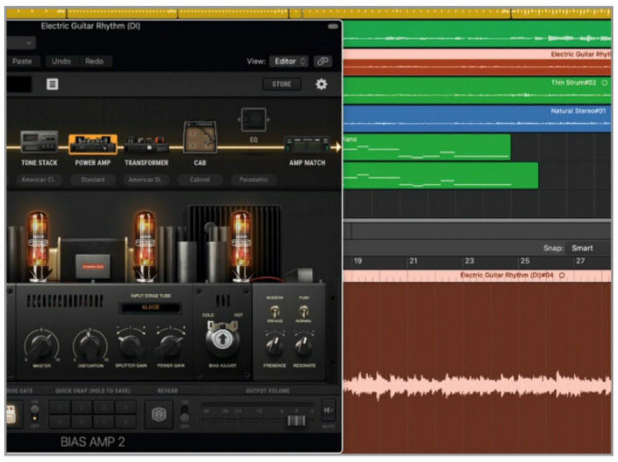
8 > The virtual pedalboard is an absolute treat, and is where you can combine various colourful pedal combinations to concoct a more vibrant signal chain. Each pedal replicates the simple on/off design of real-world hardware, and simple volume and effect-specific parameters.



9 > Pedalboard has two discrete effect busses which you can easily switch between, while certain pedal parameters (such as performing Wah Wah sweeps) can be automated via eight macro controls. Combined with everything else it offers, Logic isn't just another DAW, it stands as tall as a real contender in the world of virtual guitar recording.

> Step by step

2. Virtual amp design in BIAS Amp 2



1 > Positive Grid's BIAS Amp 2 allows for a much deeper level of amp creation, with the ability to tweak the components of the chosen amp, allowing you to not just build a more personalised tone, but to learn more about how each amplifier actually works. A free demo is available from positivegrid.com. Though presets can't be saved, it should be fully workable for seven days. Install the software as a plugin, fire up your DAW and add it to your selected guitar track.

2 > The UI is pretty straightforward, giving the signal path overview at the top of the window, and each selected component becoming deeply modifiable once selected. It starts with the amp head, before moving down to preamp, an authentic tone stack, the power amp, transformer and then the cab, with EQing at various stages.

3 > We want a clean rhythm guitar tone, so with the default RC-120 preset, and the Standard preamp, we can make initial modifications to our tone via the virtual amp head (the classic amp controls of Bass, Middle, Treble and Gain) before moving on to the preamp. Here we get the option of switching out our pairs of input stage tubes and cathode follower tubes – a simple click will cycle the variants (and their tonal characteristics).

4 > Different tube sounds impart different levels of warmth to your tone. Using this combination of 12AU7s on the input stage tube and 12 BH7s gives us a much more midrange-located sound, and a greater dynamic balance, which is perfect for our rhythm guitar track.

5 > We can boost our pre-EQ and post-EQ via the preamp window too, as well as bypass certain frequencies from the process. This is dependent on what you're after in your track, but we've added low shelf filter to our midrange rhythm guitar, as we don't want our tone to wander too far into the low end.

6 > You can further frequency-sculpt via the 3-knob tone stack to create a big scoop in the mids should you require (this is particularly handy if you've got an overdrive earlier in your effects chain). The power amp is the main driver of your sound, and here is where you can shape the power gain, distortion levels, resonance and presence.

7 > Starting with the Solid State Power preset, with our input stage tubes switched to the 6550s (which give a clean sound with a slight edgy kick), our rhythm guitar sound is now sounding like a more hearty element of the surrounding mix.

8 > The Transformer section lets you enhance your amp tone further, without changing any fundamental characteristics. When scaling its presets (American, British etc), we hear major shifts in overall presence and warmth.

9 > The cab section is where true dark magic can be dabbled with, choosing and then moving your virtual mic(s) around your chosen cab can change your tone vastly, with the best sounds often being the result of blends between two different mics. Endless fun awaits!

THE STAGE is set

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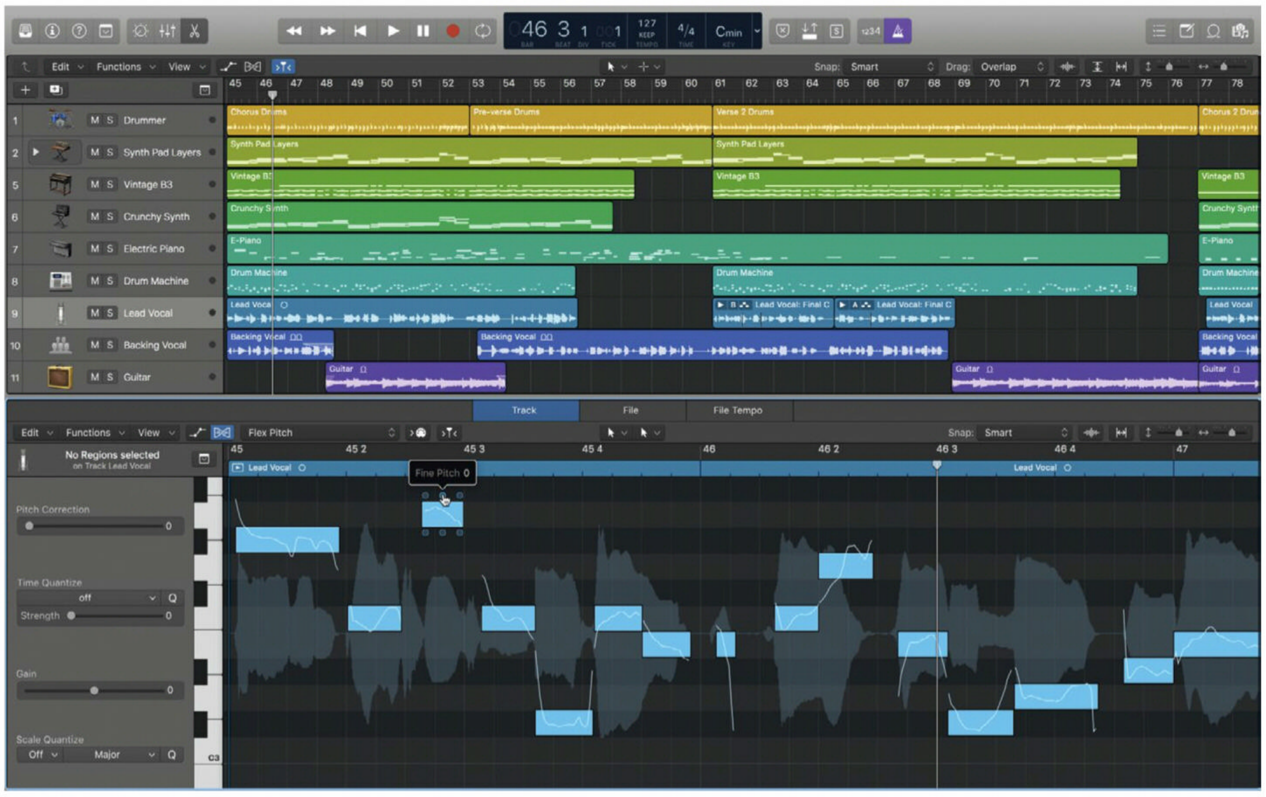
6 OF THE BEST

DAWs for guitarists

The best DAWs for getting a great guitar tone...



Apple
Logic Pro £174.99

Apple's fairly priced DAW behemoth contains a veritable smorgasbord of virtual amps, cabs and pedals, all easily accessible via its slickly organised and user-friendly drag-and-drop UI. The ability to quickly conjure up a decent sounding rhythm section via the included Drummer can also prove a massive backing track boon for apprentice guitarists.

apple.com

Bitwig
Bitwig Studio £399

A novel way to conjure exciting new chains and amp setups, Bitwig Studio's unique series of plugins and effects presets can lead to all manner of original-sounding results. Though the DAW doesn't really support take-comping, the touchscreen potential of the DAW allows for speedier interaction, especially when you've got a six-string axe round your neck.

bitwig.com

Reason Studios
Reason £399

A mainstay of the electronic production world, the inclusion of Softube's Amp also makes Reason an appealing route for guitarists too, with a simple series of presets pushing you in the right tonal direction (further modifiable). The included effects that make up a big part of Reason's extensive roster can be remarkably effective as guitar tone shifters.

reasonstudios.com

Presonus
Studio One
£344.40

Preloaded with Ampire – a 'state-space' modelled amp/cab and pedal simulation suite – Studio One 5 Pro provides some world class tones straight from the box, with all of the amplifier and tone reproductions being expertly created using Presonus' bespoke technology. It also features a useful microphone edit page and an extremely colourful selection of chainable stompboxes.

presonus.com

Steinberg
Cubase 11 From £85.00

The grandaddy of DAWs is no slouch when it comes to guitar processing either. The included VST Amp Rack grants the ability to shape a virtual signal chain with ease, combined with the range of onboard effects and the spectrum of VST guitar tailored plugins mean Cubase is a rock-solid base to begin your guitar explorations.

steinberg.net

Ableton
Live 11 From £69

The EDM favourite can be put to brilliant use as a guitar recording suite and processor, and, like Reason, it contains Softube's excellent Amp simulations. Live's creative sound design-oriented effect repository is hugely inviting for those looking to fashion more alluring tones, while the loop-based recording process forces a rethink of each guitar part.

ableton.com

6 OF THE BEST

Amp sims

Some of the best software to simulate guitar amps

Native Instruments
Guitar Rig 6 Pro £179

Native's modular designed beauty is, like AmpliTube, way more than a simple amp modeller. Developed using pioneering new AI processes, the circuit modelling used to build its 21 virtual amps has been painstaking, and the results speak for themselves.

native-instruments.com

IK Multimedia
AmpliTube 5 £255

Not just an astonishing suite of peerlessly modelled amps and cabs, but an all-in-one guitar HQ loaded with effects, big-name, signature tones and much more besides. AmpliTube has been a world-class piece of guitar software since its inception, and version 5 cements its legacy, featuring an 8-track recorder and the integration of cutting edge VIR capture technology.

ikmultimedia.com

Positive Grid
BIAS Amp 2 £130

For some, an amp/cab sim isn't enough, and BIAS Amp 2 gives users the capability to open up their virtual amplifier and re-organise its internal components, building something entirely new. BIAS Amp 2 is a super flexible tool for tone-sculptors, and also has a rich community sharing amp profiles via its ToneCloud service.

positivegrid.com

Blue Cat
Destructor £85

For those looking for more of a rock-oriented fiery punch, BlueCat's Destructor is tailored towards the simulation of authentic amp crunch and distortion. Filled with hundreds of presets, Destructor encourages you to get gnarly with an unlimited number of distortion simulations, while tone maps can help you fine-tune.

bluecataudio.com

Line 6
Helix Native £290

Bringing Line 6's digital modelling heritage out of hardware and into the software world, Helix Native sports more than 60 amplifiers and 30 cabs, as well as the option of loading in your own IRs to the software world. Its signal-path-centric UI makes it remarkably easy to use, too.

line6.com

Softube
Amp Room £130

The unmistakable tone of Marshall is one of the key USPs of Softube's Amp Room, with the company officially licensing Softube the rights to model their iconic amps and cabs. As always with Softube, you're assured indiscernible, accurate tones while the ability to make endless signal chain tweaks is top notch.

softube.com

EFTERKL

ANG

Photo © Dennis Morton

Producer Mads Brauer explains how the experimental Danish trio have gone back to basics for their latest album – and back to nature…

> Mads Brauer's Copenhagen home isn't far from the beach. Even in the middle of this busy, 21st century city with its 10 million tourists, he likes the idea that there is still a small connection with nature.

"Something as simple as the smell of the sea can make that connection for me," explains 'electronics' chief Brauer. "The salty air… the strong breeze. Without it, I think the music of Efterklang would suffer."

Along with Casper Clausen and Rasmus Stolberg, Brauer is part of the core trio that has existed at the heart of Efterklang for 20 years. The experimental soundscapers have been friends since school, growing up in a pre-internet rural Denmark that was dominated by the Top 40 and daytime radio.

"When you think back, it's amazing how limited our access to music was," remembers Brauer. "The only alternative music I got to hear was grunge when Nirvana became huge. At the time, I was playing the guitar, so I was at least able to have some fun. Turn up the amp and make some noise.

"We were just young kids who didn't really know too much about all the other music that was out there in the world. It sounds kinda scary, really. All this music was happening, but we didn't know about it. It was only after we all moved to Copenhagen when I was 18 that things started to change. Suddenly, we had more record shops and clubs to choose from, and the internet was beginning to give everyone access to music from around the world.

"It wasn't long after we got to Copenhagen that I heard the Autechre album, *Amber*. That was the point at which music changed. By the time I got to the last track, I was bored with the guitar. As a band, we started to think seriously about what else we could do with our music. How far could we travel with sound?"

The band's debut release, 2003's *Springer*, would soon enough answer that question. A mix of otherworldly melodies, chiming guitars, drifting synth drones, glitched rhythms and melancholy vocals, it shared DNA with the likes of Sigur Rós and the aforementioned Autechre,

but still managed to add something that was distinctly Efterklang.

Tripper soon followed in 2004, but it was the 2007 album, *Parades*, where the band really found what they were looking for. How would you describe *Parades*? An acoustic/electronic cabaret? Or the soundtrack to an unreleased Lars Von Trier mind-bender? Maybe the best of Vernon Elliott scored for glitch plugins? Such was *Parades*' impact that, in 2008, the Danish National Chamber Orchestra enquired about a collaboration and ended up performing the album live with the band. (One of the performances is out there on YouTube, complete with a selection of 'interesting' hats.)

As you'd expect, the most recent album isn't quite as collaborative. With the world in the grip of lockdown/Covid, the band disappeared to a deserted farmhouse on a tiny island south of Copenhagen. Ironically, *Windflowers*, released in October, has turned out to be what many are calling the band's most 'accessible' album to date. As if, even in isolation, they longed for connection with others… something we all experienced over this last 18 months.

cm: Is it fair of us to describe *Windflowers* a Covid album?

Mads Brauer: "Maybe that's true. The way it came together was certainly a result of Covid. The normal ways of recording were closed off to us… we couldn't just call up an orchestra and sit in the same room with 40 other people.

"So, we made a conscious decision to get away from the madness. We found a farm on an isolated island, moved some of our equipment there and started recording. There was already an old Mac Pro with a Pro Tools HD rig there, but we also brought our own Pro Tools system, based on an Apollo x8.

"There was actually a sense of relief when we finally started setting up all the gear. It was a relief to be out of the city. Immediately, I could feel positive energy starting to flow and the world making sense again. All of our focus could be directed at the music."

> "We were adding strange sounds, building and building these massive Pro Tools sculptures"

cm: You couldn't do that in the city? Not even with the aforementioned salty sea air wafting through the studio?

MB: "Well, yes, that is possible, and we have done it in the past. Inspiration can be found anywhere. Sometimes, when I'm down at the beach looking over the water, I can see wind turbines, the big oil tankers, and the sun on the water. There is a certain kind of beauty in that scene, but it's not a complete feeling. There are still too many distractions.

"We all grew up in the countryside. We are used to the open skies and the trees. And those feelings have always been present inside our music. The view from our window or the colour of the sky will make an appearance in how the music is constructed. Being in the countryside keeps me grounded and it allows me to stay inside my mind. If things are getting difficult in the studio, I can go for a walk and, 30 minutes later, all the problems have gone.

"Even the name of this album comes from nature. Each year, there is a certain flower that will suddenly arrive in the forest in April. It almost seems that one day, the flowers are not there, but the next day, they are covering the forest floor like a beautiful white carpet. And they disappear just as quickly. An explosion of colour, then they are gone. Every year, they mark the changing of the seasons… the passing of our lives. People call them windflowers.

"The album was recorded over five different periods at the farm and nature became part of the reason we wanted to be there. The flowers in spring, the glorious days of summer and even the freezing winter, when everything was covered in snow. We spend so much of our lives in virtual worlds, these days. Maybe we all need to get back to the real world. Get back to basics."

cm: So, without the complication of Covid, maybe this album wouldn't have got made? You would have been in the studio with a 300-piece orchestra?

KM: *[laughs]* "Who knows? There were a few collaborations on *Windflowers*, but it felt like a real DIY album, similar to how we used to work 20 years ago. No big plan. Just switch on the equipment and go wherever the music wants to go."

cm: With that in mind, did the 2008 collaboration with the Danish National Chamber Orchestra feel like a challenge for you? Not really DIY, is it?

MB: "I think it's something that a lot of bands must dream about. You're in the studio and you add some strings to one of your songs, then you suddenly start imagining an entire orchestra. What would our music sound like if we had this and this and this? The way that *Parades* was recorded naturally led us down that road. It was the product of lots of different recording sessions with strings and choirs. We were adding all sorts of strange sounds, building and building these massive Pro Tools sculptures. Trying to find room for all of the different bits to the songs. Electronics, acoustic instruments, voices, machines… all of them weaving in and out. Trying to find a meeting point for all of those elements.

"Before we actually sat down with the orchestra, we had a very fortunate meeting with Karsten Fundal. He's a composer who's worked with Den Sorte Skole and many other Danish acts, and he has done film scores for Ai Weiwei and Joshua Oppenheimer. He was the first one that helped us look at the *Parades* album and translate it into something bigger, something we could play live. Over the next few weeks, Efterklang grew from five people to 13 people.

"But even when things had started to grow, the idea of playing with a full orchestra still felt like a silly joke. It was only when the Danish National Chamber Orchestra actually contacted us that we began to take it seriously. There was a big thing in Denmark at the time: orchestras were looking to collaborate with non-classical musicians. Bringing two different audiences together. What could we say? Of course! It was hard to make the whole thing work, but it was also a rare chance for us to hear our music in a totally different setting."

cm: How did the change take place? Did you give your music to the orchestra and let them come up with their own ideas?

MB: "Right from the beginning, it was clear that the way we had recorded the album was too fragmented. Yes, the melodies were present, but there were all sorts of gaps that didn't feel right for an orchestra. The first job was to make the

Photo © Dennis Morton

Photo: Frank Hoensch/Redferns/Getty

The joy of recording with analogue synths

“There is a track on the new album called *House On A Feather*. It’s based on a simple sketch that I made on the OB-6. As you know, it’s an analogue synth and sometimes the tuning is not so perfect. Basically, you need to calibrate it… tune the oscillators. But in this case, I actually chose to keep it in this detuned state as it has a special atmosphere. It turned out to be quite a challenge to record the song because we had to tune everything else using Melodyne and by ear. The results were very surprising. I was fascinated by how the voice can so easily adapt to different tunings, whereas the piano and bass guitar weren’t so happy in this new setting. I really like the slightly different colours of this track. It’s like looking through a stained-glass window.”

original music feel more cohesive; after that process, we really started to think about how the orchestra could be used to help add support or colour.

“Karsten [Fundal] was very important at this stage. He had the ability to keep hold of the initial spirit of the album, but still add something from the orchestra. He didn’t just say, ‘OK, this is the album, here is the sheet music. We’re going to perform *Parades* with some big strings and that’s the whole story’. He completely understood that we wanted to create something new.”

cm: You mentioned Pro Tools earlier. Is that still your main platform?

MB: “The first DAW I ever used was Cubase when I was at school. It was still very limited back then. I seem to remember difficulties with the amount of audio you could record and the latency was out of this world. Then I bought Pro Tools LE. Why Pro Tools? I honestly don’t know. I think it was a simple case of going into a music shop and some guy telling me that Pro Tools was pretty good. When you’re 18, you think that all the grown-ups who work in music shops know what they are talking about.

“As it turned out, Pro Tools has been perfect and, yes, it’s still the one we use most. We have got others loaded on to the computer – Logic and Ableton – but no one has been able to give me a good reason why I should change to a different platform, so I can’t see that happening any time soon. OK, there were a few logistical problems with Pro Tools in the early days, but we’re now at a stage where technology is no longer seen as a hurdle. It’s all designed to make it easier for us to make music.”

cm: Even though you’re often seen as an ‘electronic’ band, there always seems to be a strong human presence in your music. It’s hard to listen to Efterklang without a vision of people standing around in a room, playing instruments. Was that something that just happened naturally or did you plan for that all along?

MB: “Right at the start, we were a normal band. We were people playing instruments. Then, we discovered all these great machines that could help us make music and we started looking at ways we could integrate the machinery into our band. It was always meant to be a collaboration… we didn’t want the machines to take over.

“But finding the exact point where we could join those two ideas was quite difficult. In the early days, we just ended up sounding like Radiohead. All our music could have been taken from *OK Computer*. For the next two or three years, we started investigating different ideas and different bits of equipment. Sometimes, the technology would feel too powerful and we were out in the cold. Sitting in the corner, looking at the computer, thinking, ‘Hey, what about us? Can you give us something to do.’

Kit list

HARDWARE
- **Apple Mac Pro**
- **UA Apollo x8**
- **Manley SLAM**
- **Sequential OB-6**
- **Elektron Analog Keys**
- **Modular synth rig based around a Furthrrrr generator oscillator**

SOFTWARE
- **Avid Pro Tools**
- **Ableton Live**
- **Apple Logic**
- **Unfiltered Audio LION**

Photo © Dennis Morton

"I will admit that I have used a couple of actual software synths"

Photo: Frank Hoensch/Redferns/Getty

"The key that finally opened the door was the MPC2000. It was an instrument that allowed us to make machine music. We could use it to sample and create sounds… we could build songs. In a strange way, it allowed us creep into the electronic world and find a place that was comfortable for us. Maybe it was the fact that the MPC doesn't use a mouse. Even today, clicking a mouse feels like an odd way to write music. I have to use a mouse, but the less time I spend with it, the happier I am.

"I think you can see that quite well in my choice of synths."

cm: All analogue?

MB: "Mainly. The Sequential OB-6, Elektron Analog Keys and a modular synth based around a Furthrrrr generator oscillator. They're all constantly hooked up to the computer, so they are available for me immediately. Some people say, 'What's the point of using analogue synths? You have to print them anyway, so they still end up in the computer'. That's true, but it just feels better for me. I like the fact that I am being given a limit and I have to make a decision.

"I do use Max MSP, which you could call a software synth. But MSP is different because it doesn't offer instant gratification. You try this bit here and maybe it works, maybe it doesn't. OK, so let's try something over here. It's the complete opposite of the instant preset mentality. You have no idea what you're going to end up with and you can easily spend a whole morning creating something that has no use whatsoever. You need to have patience and you need a particular kind of mindset; a bit like building something out of Lego.

"I will admit that I have used a couple of actual software synths. There's one called LION by Unfiltered Audio. As soon as I heard it, I liked the way it sounded and the minimal interface, but it wouldn't let me save anything, so I ended up having to use it like a hardware synth. Maybe it was a message from the synth gods… do not rely on software.

"I guess that is the big dilemma for musicians today. How deep do you dive into software? How big do you want to make your music? Ideally, I would only ever have 24 tracks of audio. You try to set limits, but, in reality, that never happens. You try to leave a few accidents and errors in the music, but it is so easy to fix any problems.

"As a musician in 2021, you have to be very careful because you can just keep going… you can build your song higher and higher. You can make it all clean and tidy, with nothing out of place. Everything is perfect. Plus, you can build it so much quicker than you used to build it 20 years ago.

"But that's when you have to ask yourself whether that will be the best song for you? Do you want to be surrounded by clean, faultless music? To me, that sounds a bit… boring."

Efterklang's new album, *Windflowers*, is out now

It's fair to say that Mads is not software's greatest fan but synths like Unfiltered Audio LION make his cut

HEAR MORE

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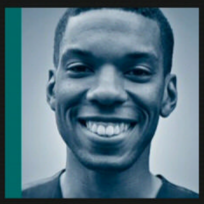


Vocal Production
with *Ashley Thorpe*

50 The art of mix problem solving

Our vocal and production guru Ashley Thorpe explains how to bring order to your problem solving

Synth Masterclass
An all-new masterclass with *Dave Gale*

52 Create a 303 sound in Zebra

Don't have a go at us for doing obvious TB-303 stuff in issue 303. Instead, marvel at our planning abilities and watch Dave 'Synth' Gale wrestle a 303 sound from a Zebra...

Vocals masterclass with Ashley Thorpe

#04

Problem-solving mixing

Part of the job of a mix engineer is to solve problems that might arise at the recording stage. Software – and creative thinking – can help!

DOWNLOAD
Download the accompanying video and the MIDI/audio files at **filesilo.co.uk/computermusic**

> When I take on mixing work for clients, I want to give them my very best. Something I've had to accept, though, is that the sound quality of what is sent through to me is not always the best.

I'm going to use a job that I took on last year as a case study to show the sorts of issues that can come up and the ways that a good engineer can go about handling them.

I mixed a five-track EP for an electronic RnB artist last year. They had recorded their vocals in their bedroom for each of the five tracks, as lockdown meant that they were unable to get into a studio.

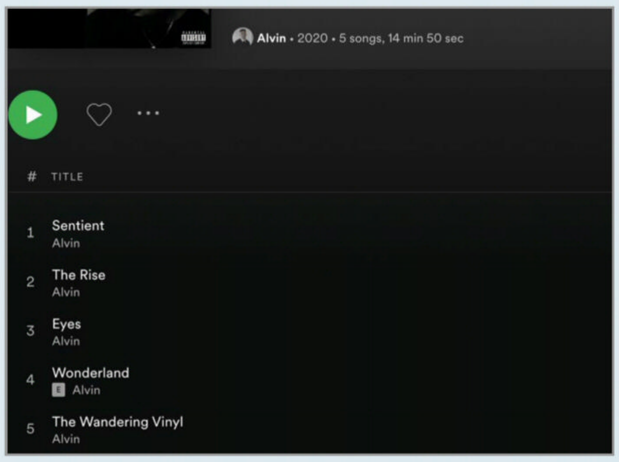
They'd managed to do a pretty reasonable job of recording into Logic, given the restrictions. They also had very rough mixes of the tracks in Logic with the various vocal stems and component instrument tracks. When I listened through the vocals, it became clear that they didn't have a pop shield so there were plosives on their tracks.

They didn't have a reflection filter so there was natural room reverb. At times they were also running the mic input really hot, which was causing pops.

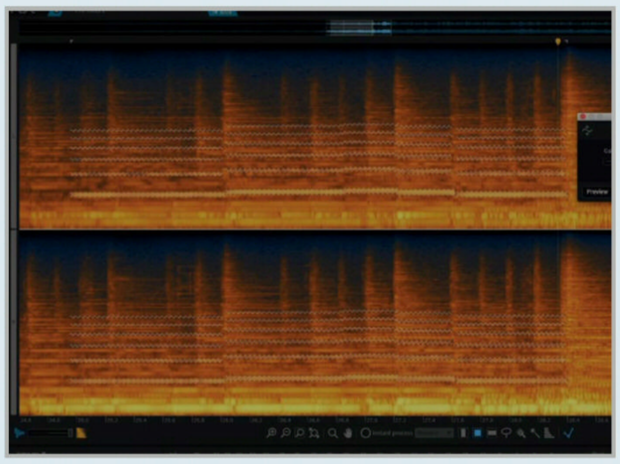
The simplest thing to do was to tell the artist to buy a pop shield as a bare minimum and re-record some lead vocal tracks. But for one track in particular, the artist wasn't as happy with the re-recording as he had been for his original take. That's when I had to do some serious creative thinking...

>Step by step 1. Case study

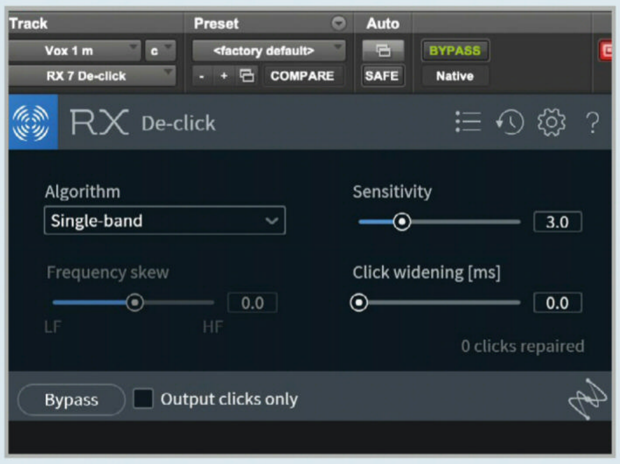
1 > The final song of the EP was a minimalist one. The tracks I had to mix were: lead vocals, an acoustic guitar backing beat, ambient backing vocals. But we had a problem: the lead vocal was recorded with high gain and there were pops everywhere.



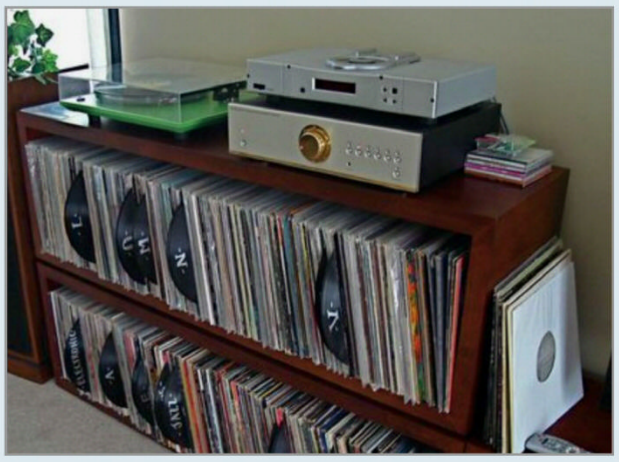
2 > The last song on any collection needs to leave an impression. We had spent a lot of time working on the previous four tracks and had standout singles from it. The quality on this last track was poor and I asked the artist to re-record the lead vocal track.



3 > Unhappy with subsequent takes, the artist insisted we use the original lead vocal track and that we go for a 'lo-fi vibe'. Even using iZotope RX-8's handy 'De-plosive' tool, which showed me visually where the pops occurred, I was unable to remove the sounds completely to a level that I was comfortable with.



4 > I even used RX-8's De-click tool for good measure. But the fact that the song was so stripped back, with just the vocals and acoustic guitar, meant that there was no hiding from the imperfections in the vocal recording. I didn't want to have a throwaway filler song end an otherwise very strong EP.



5 > I used the mood of the song to guide my creative decisions. If I couldn't fully get rid of the imperfections, then I had to add my own imperfections to mask them. The vinyl record aesthetic features prominently in hip-hop and lo-fi genres. And the artist had mentioned wanting a lo-fi vibe. Bingo.

6 > I had a record player of my own and ran an auxiliary cable through it to record the vinyl crackle. I then used this crackle audio as another track in the mix and cut and looped the parts that were the least invasive.

PRO TIP

IZOTOPE RX

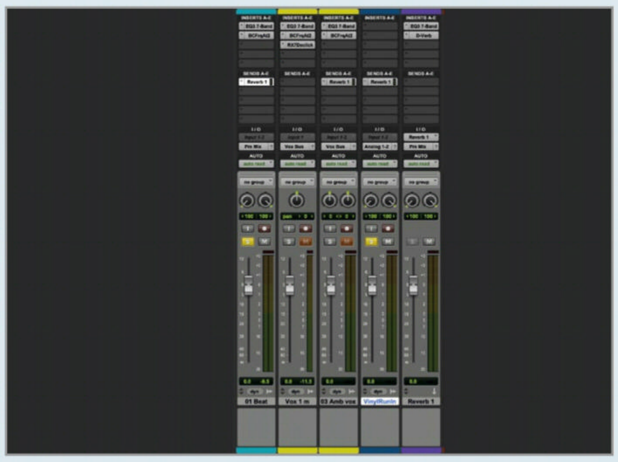
The iZotope RX series is a suite of audio repair and enhancement tools that's been a market leader for years. RX9 is new so you might find yourself able to get RX8 products at a discount. There are different RX suite products available and Elements is the budget version. It features several solid tools: de-noise for removing pesky backgrounds and fuzz from a recording; de-hum for eliminating electric hums/fans; de-click for clicks in audio and de-clip to fix any clipping in recordings. I swear by them for vocals and dialogue.

SOUNDTOYS

I very recently purchased some Soundtoys bundles after hearing lots of good things and seeing a demonstration online. I'm a little bit in love with the Decapitator plugin, which is modelled on analogue saturation. Clients have instantly commented on the warmth in their vocals from my masters. This plugin does a really great job of capturing a classic quality so is great to use if, like me, you can't afford the original hardware. It's a highly impressive tool and I am waxing lyrical about it as a consequence.

Ashley Thorpe

Ashley Thorpe (aka Breezewax) is a producer and musician who has created electronic music for over a decade. He typically uses a mix of samples, field recordings, synthesis and live instrumentation in his work, which covers a variety of styles including hip hop, chill hop, neo-soul and RnB. He also works as a music facilitator and freelance audio engineer.

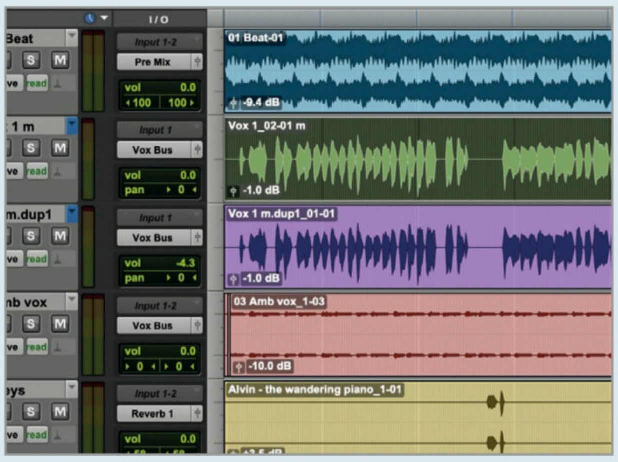


7 > The vinyl layer was mixed in with the same reverb chain as the acoustic guitar backing track and the ambient backing vocal track, so it was set in the same acoustic space. This meant that it didn't sound out of place or too invasive against the other components of the song.

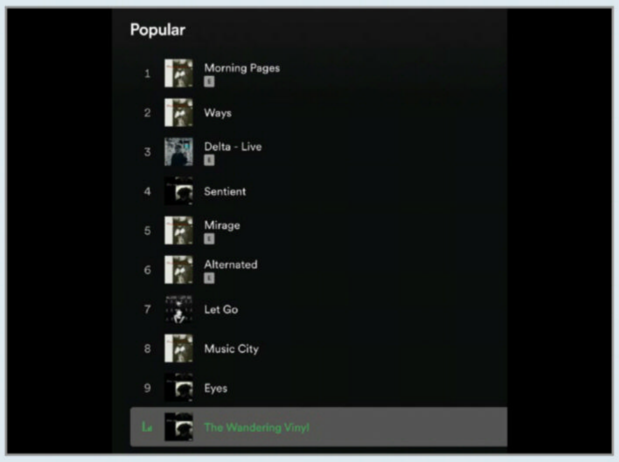
8 > I could then adjust the volume of the vinyl crackle to a point where it masked the remnant sounds of the pops in the lead vocal – just enough to make you think that the artefacts were the vinyl crackle sound instead of being issues on the lead vocal.

9 > It was fortunate that we'd used reverb a fair amount for the EP. This meant that the last track would not be out of place by using reverb to help with washing out certain imperfections. The backing vocals had a lot of reverb applied; it was really more of an atmos layer.

10 > With the main sound defects hidden I could now concentrate on another issue: the sparseness of the track. The backing acoustic guitar was an eight-bar loop. The track didn't go anywhere or elicit much feeling after a few moments of listening. Definitely not the strong closing song we needed!



11 > I went and recorded some extra parts myself on an upright piano. I recorded this just using a Zoom H4N. The point was to capture acoustic instrumentation that fit the acoustic guitar already present in the song as well as the sombre stripped-back vibe of the track.



12 > I edited the piano parts so that they only really came in when the vocals weren't present. This essentially elevated the track, meaning it was not just a throwaway looped song but something with emotional substance. Funnily enough, this song – which might have been the weakest – is firmly in the artist's top 10 tracks on Spotify! **cm**

#09

A TB-303 via Zebra CM

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Download the accompanying video and the MIDI/audio files at **filesilo.co.uk/computermusic**

TB or not TB! It's not so much a question, as how we use our own Zebra CM plugin to recreate the sound of a TB-303 for our 303 issue!

> If there's one thing we have gleaned from this months cm, it's that there is plenty of love for the Roland TB-303, with use that extends far and wide. One of the most bizarre considerations that we lay firmly at the 303's door, is how it managed to garner its reputation as an eternal classic, with a vintage price tag to match, while offering such an incredibly simple signal path that could be trumped by so many other synths, old and new.

With this consideration at the front of our minds, we're going to create a classic 303 'aceed' sound using our very own Zebra CM. Ironically, our in-house softsynth is capable of so much more than the basic 303 architecture, but the dressed-down process serves as a perfect entrée to understanding signal workflow. We'll also be using some basic envelope settings, for both amplitude and filter modulation.

Armed with this basic concept, it's a simple progression to getting something which sounds more akin to an SH-101, Bass Station or Moog, by extending the 303 construct with a second oscillator or sub-oscillator. So let's create a great 303 sound, all from our very own Zebra (with real credit to our friends at u-he, of course!).

>Step by step

1. Understanding signal workflow by mimicking the 303

1 > The first step in our process requires the booting of your DAW and an instance of the Zebra CM plugin. We're working with our beautiful new-look version here, so grab your update if you haven't done so already. Once loaded, visit the drop-down patch menu and select Init to start with a clean slate.

2 > In line with the simple architecture of the Roland TB-303, we're only going to be using Osc 1 for this patch. The original 303 offered only a saw or square wave; you can use either, but we're going to stick with the slightly richer saw shape, which is also the default settling.

3 > Once we begin to program sequences later, it will be important to ensure that we are in monophonic mode. This is indicated by the highlighted No. 1, which is in the Osc 1 section. Check that the Volume is also set to around the 12 o'clock mark, on Osc 1, as well.

4 > The best filter fit for us is the default LP (low-pass) 12dB filter. The original 303 offered a fixed 24dB low-pass filter, but many users reported a grittier 18dB performance. Hence 12dB is closer to the original character. It's also worth trying the LP Vintage filter for slight variation.

5 > If you audition our patch at this point, it will sound very bright. To counteract this, reduce the filter Cutoff control to around the 10 o'clock mark. By total contrast, it will now sound incredibly dull! Don't panic, because we'll re-introduce some brightness in a couple of steps' time.

6 > In order to get that 303 squeal, we'll need some resonance. Increase the Resonance pot to just before the 12 o'clock position. You can also watch the central display for a more accurate value; we're aiming for around 45-47.

PRO TIP

PATTERN TOP-TIPS

Zebra CM is pretty effective at recreating something that sounds similar to an original 303. However, it's arguably only 50% of the 303 equation, with the remainder being the sequencer-based pattern.

Due to its programming complexity, many classic 303 sequences were built around only 16-steps, with a mixture of both notes and rests. You can exhibit a form of random programming by opening up your DAW's step editor, and literally clicking anywhere within a 1-bar pattern, ensuring you only have one note, or a rest, per step. Try making the first note of the sequence or loop your tonic note, the keynote of your track, and start by staying within the range of a single octave. You'll be surprised at how good it sounds once you've placed some drums behind it.

The more adventurous can try extending the odd note over two notes/steps or more. As you'll be entering notes in step with your mouse, all velocities should be the same. Try setting all note velocity values to 64, with the occasional note value of 100. Now you're inducing a form of accent, as per the original 303.

Programming glide at step level is much more complex, but you can add Global Glide (far left of the Zebra interface), for a pretty fair sound-alike on a budget! Creating a gradual Attack and a longer Release in the amplitude settings of Env 1 makes a more enticing effect.

Dave Gale

Dave Gale is an Emmy award-winning media composer, producer and orchestrator, with an enormous passion for synthesisers, in all their forms. His varied composing style embraces everything from full orchestral and hybrid scoring, to fully electronic scores, employing synths wherever possible. He also happens to own some of the finest synths in existence but we're not jealous, OK?

7 > Staying within the Filter section, we want to send Env2 in the direction of our cutoff. By default, there is a pot already assigned, so increase its value to a position of around the 1 o'clock mark. You'll see an outline appear around the Cutoff control to confirm this.

8 > To mimic the 303's control of accents, we want to set up velocity control of the filter cutoff too. Locate the unassigned pot (bottom right of filter section) and assign it to Velocity. Then set a pot value at around the 2 o'clock position.

9 > The 303 offered a simplistic envelope shape, but we want to create a sound with a degree of bite. We'll do this by visiting Env1 and reducing the Sustain to the 10 o'clock position. This gives a degree of sustain, while not affecting the bite of the initial attack and decay.

10 > Env2 on the other hand, is affecting our filter cutoff. Here we need to reduce the Decay down to the 11 o'clock position, while also reducing the Sustain and Release amounts to zero. This is fully anti-clockwise.

11 > Our sound is pretty much good-to-go, but we can add a little backend delay to help make it production ready. Firstly, activate the delay, by right-clicking the Delay Line (bottom right) then tweak your Feedback and Mix settings to suit. We suggest toning them down, as we have indicated, so they don't overwhelm.

12 > Finally, record some notes in your DAW. Use your DAW's automation facility to either record or draw in filter cutoff movement. This will help create a sense of movement within your track, and provide the perfect way to create tension and builds. **cm**

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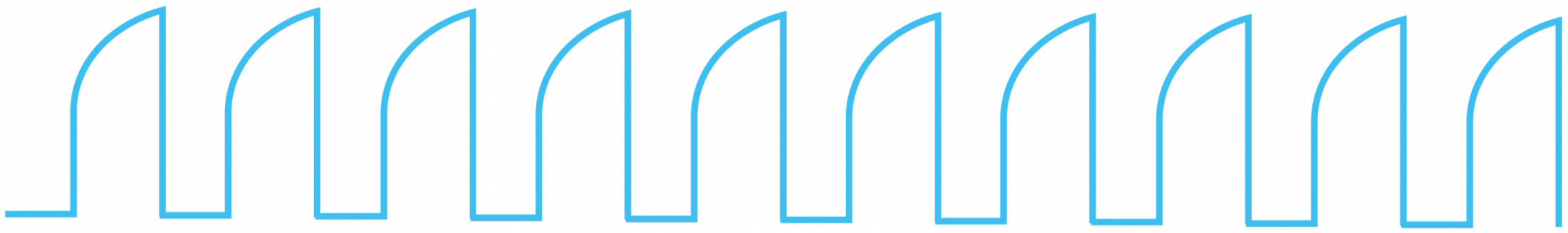
Back to BASICS

The pro producer's guide to SIDECHAINING



Using ducking and sidechain compression to lower the volume of certain noises can help your mixes sound louder and clearer, and also be used for famous effects. Here's a look at both basic and creative sidechaining...

> Sidechain compression is the process of using an external signal to trigger the threshold of a compressor. The rise in the popularity of French house in the noughties thrust the technique into the spotlight, and you can clearly hear the effect being used in tracks such as Eric Prydz's classic track *Call On Me*: the music and vocal drop in volume when the keying signal (in Prydz's case, the kick drum) plays, creating a pumping effect that not only gives the kick more room to be heard but psychoacoustically tricks us into thinking it's louder than it actually is.

Sidechain compression is actually quite an old sound engineering technique, and one that's not generally used to quite such extreme effect as in *Call On Me*. For example, it's frequently used in radio to lower the volume of the music when the DJ speaks, helping to maintain a consistent volume level and making the DJ easier to hear.

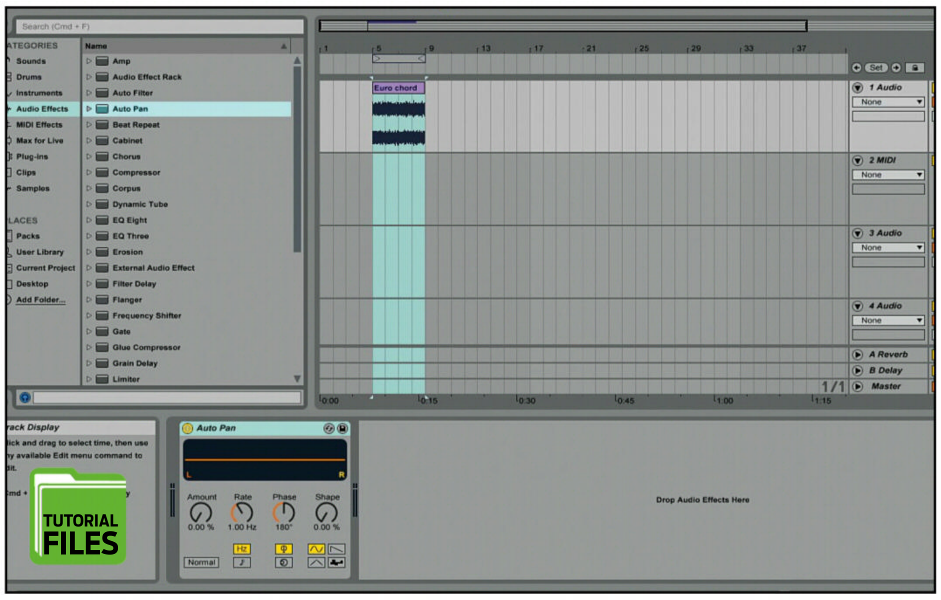
We can use the same idea to prioritise sounds in our mixes, and this is especially important when we have sounds that occupy the same region of the frequency spectrum. By deciding which of the sounds is less important, we can temporarily lower or 'duck' its volume, allowing the more important noise to be heard clearly.

It's possible to achieve this ducking effect in a number of ways, of which sidechain compression is just one. We can lower the volume of elements by automating their gain, using dedicated volume modulation effects, or even cutting and fading the audio manually for maximum precision. This might sound extreme, but if done properly, the effect can be completely transparent while yielding several extra dB of headroom to play with.

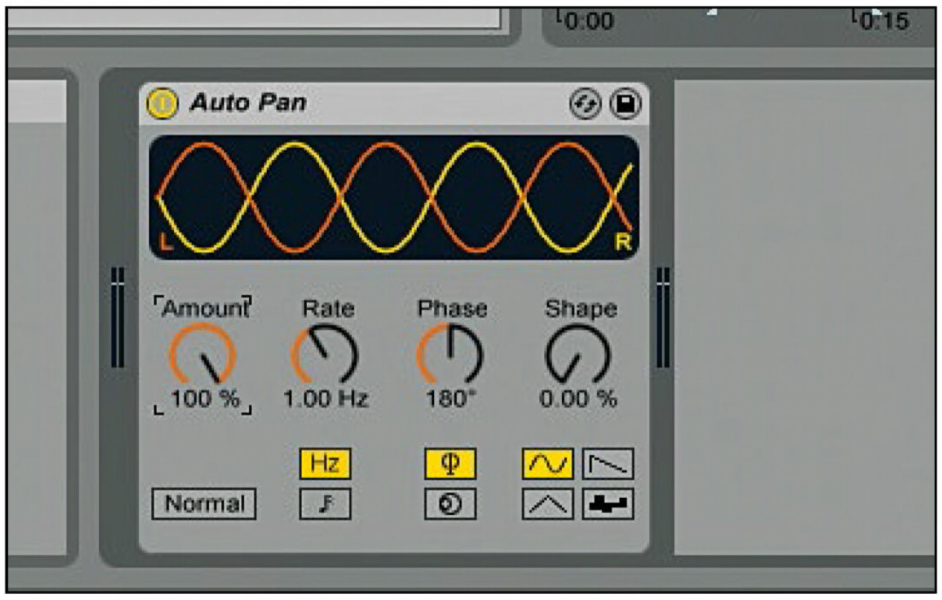
In the following set of walkthroughs we'll examine the possibilities of sidechain compression in depth, and show you a variety of other ducking techniques.

> Step by step

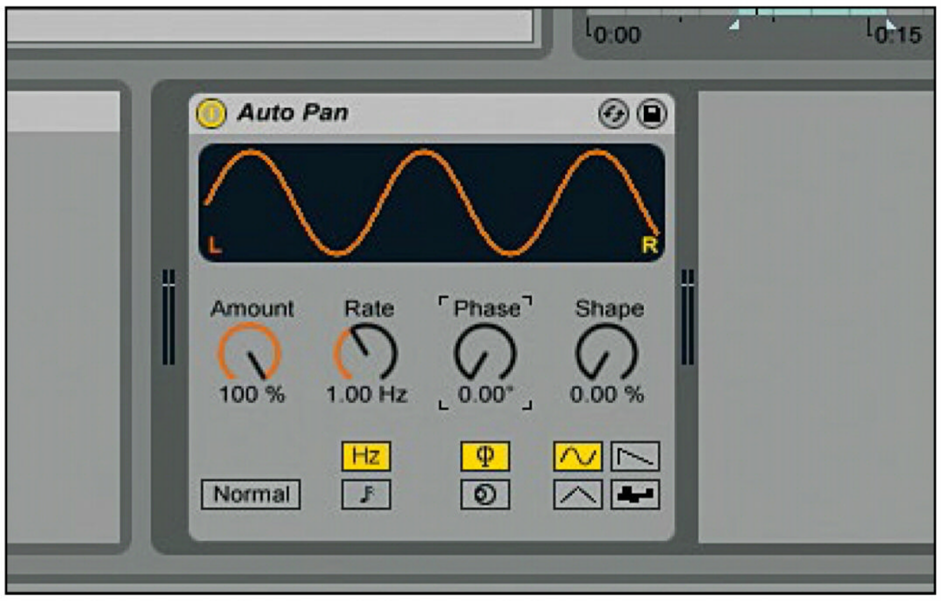
1. Tempo-synced ducking with Ableton Live's Auto-Pan



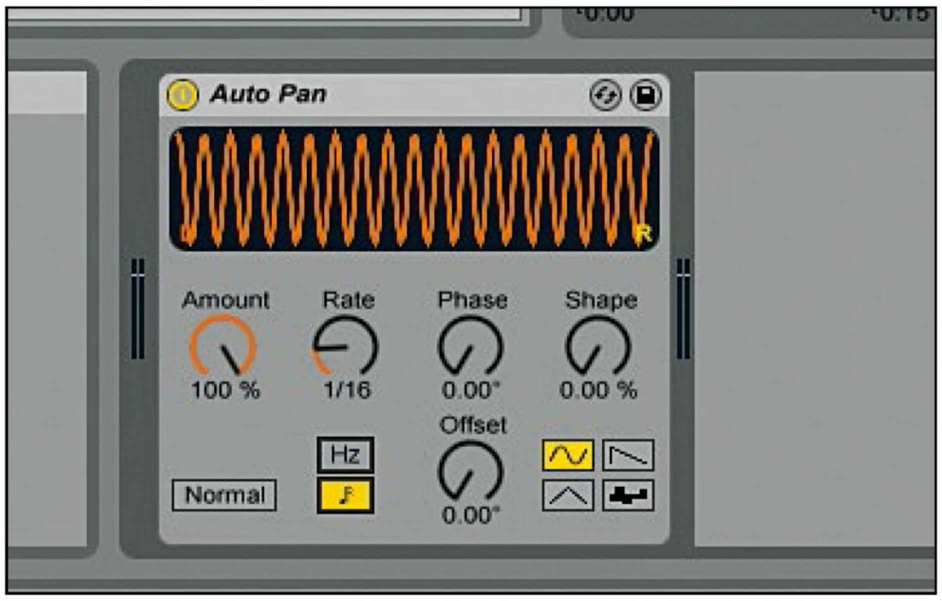
1 > With a little trickery, it's possible to turn Ableton Live's Auto-Panner into a sort of tempo-synced tremolo that's useful for stuttery 'trance gate' effects and rhythmic ducking. Let's try it out. Drag Euro chord.wav onto an audio track in Live, and insert an Auto Pan effect onto the track's device chain.



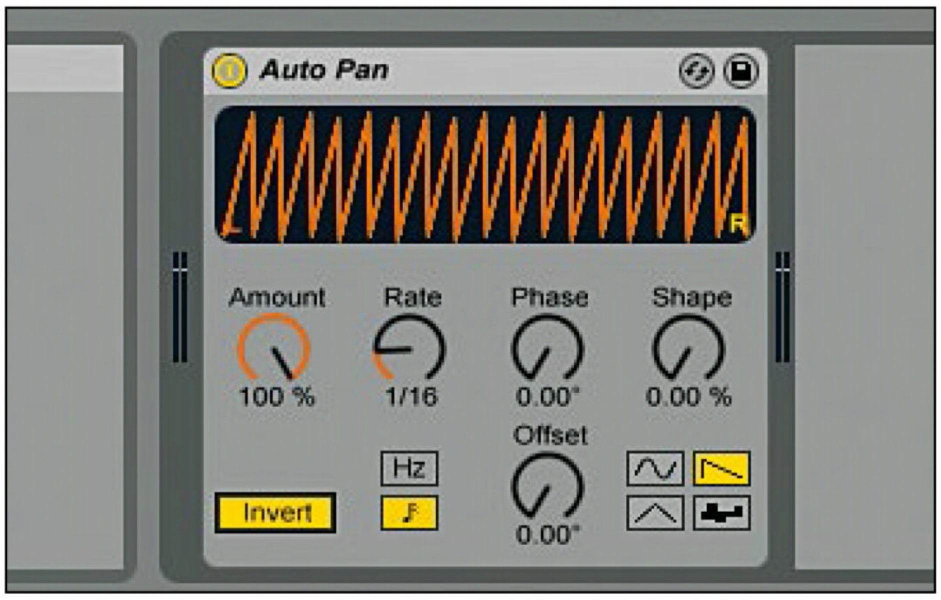
2 > The effect won't actually make any difference to the audio until we turn the Amount up. Set it to 100% and you'll hear the panning kick in. Auto-panning can be just the thing for keeping sounds out of the centre of the mix, making it a useful mixing tool in its own right. (Audio: Panned chord.wav)



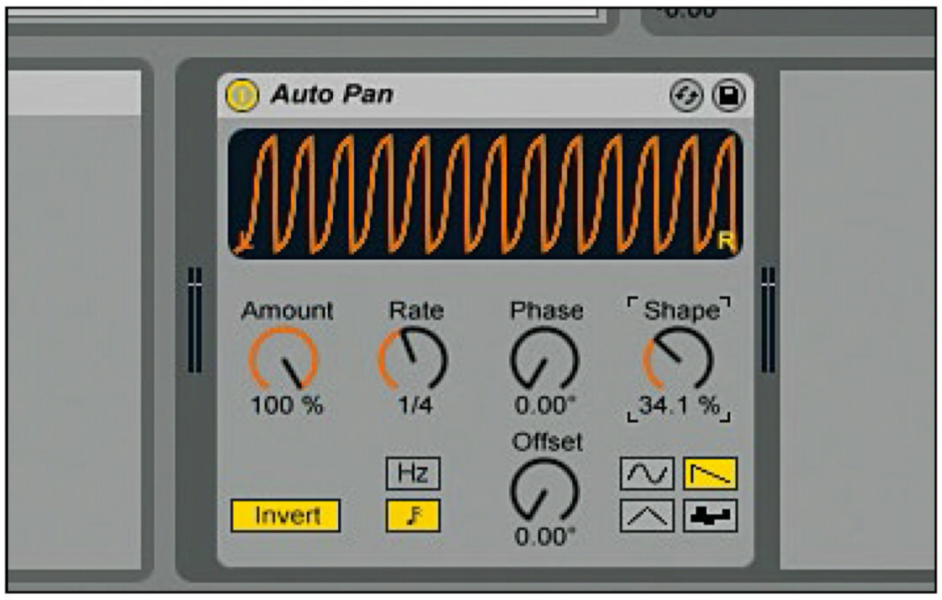
3 > We don't want to apply stereo movement to this sound, so turn the Phase knob down to 0%. This zeros the offset of the left and right channel's volume modulation LFOs, putting them perfectly in sync. Hey presto – we've turned our panner into a tremolo! (Audio: Tremolo chord.wav)



4 > Now we need to sync the LFO rates to Live's tempo. Click the note button to change the LFO rate type from Hz to Tempo. Now the LFO is in sync with our project. The default LFO shape is a sine wave, which doesn't make for the best ducking effect. (Audio: Synced tremolo chord.wav)



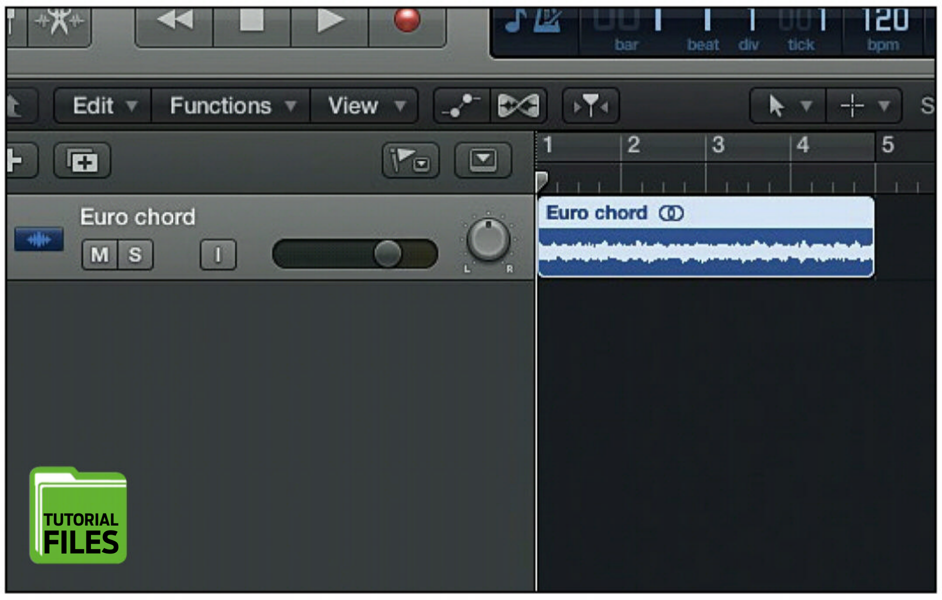
5 > Click the sawtooth LFO waveform button. This downward sawtooth movement gives us a more percussive sound, but it's going the wrong way for a ducking effect. To switch it to an upward sawtooth movement, click the Normal/Invert button. This creates the smooth ducking we've been looking for. (Audio: Ducking chord.wav)



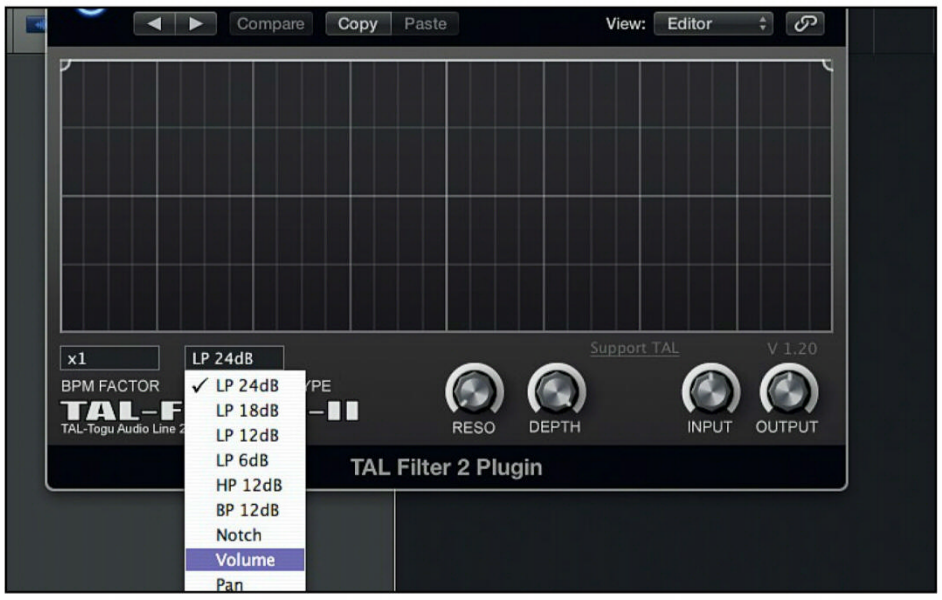
6 > The limitation of this technique is that there's no way to apply swing, but the effect is perfect for rigid 4/4 kick drum patterns. Set the Rate knob to 1/4 and you've got a classic pumping sidechain effect, the strength of which can be controlled with the Amount knob. You can also adjust the shape of the sawtooth with the Shape parameter. (Audio: Pumping chord.wav)

> Step by step

2. Flexible ducking with TAL-Filter II

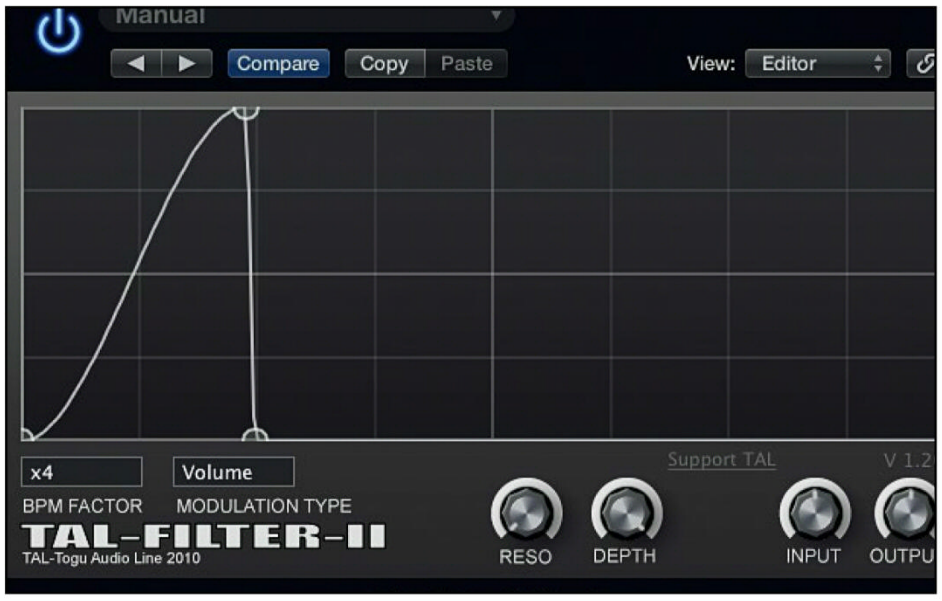


1 > If you like the simplicity of automatic ducking but need more control, Togu Audio Line's classic TAL-Filter II is the plugin for you. Still free for Mac, Linux and PC (download from tal-software.com), TAL-Filter II can modulate volume as well as filter cutoff frequency. Start by putting Euro chord.wav on an audio track in your DAW.

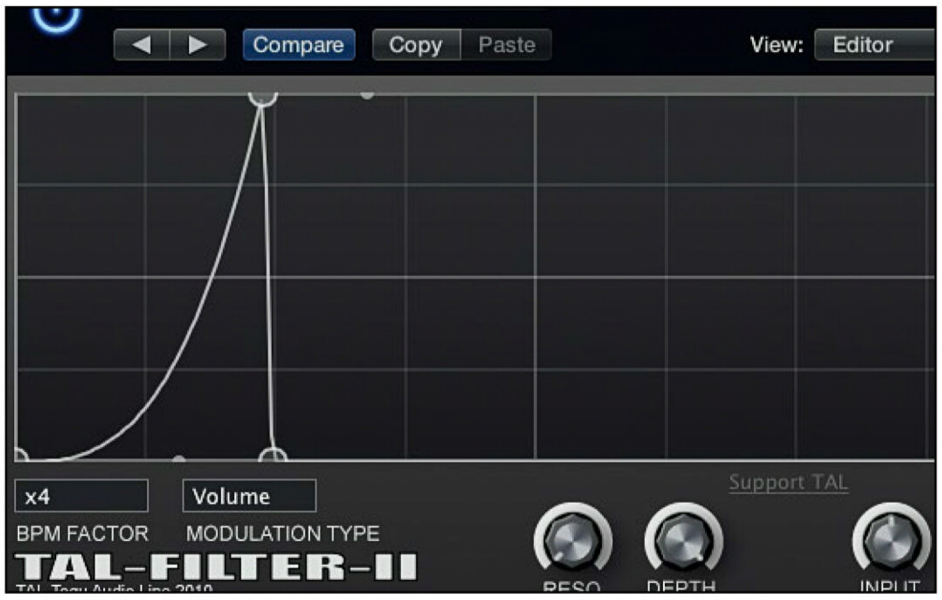


2 > Put TAL-Filter II on the audio track as an insert effect. Click the Modulation Type field to bring up a list of the available modulation destinations. Select Volume. Now the flexible envelope in the graphical display controls the level of the audio signal. Currently its resolution is set to four bars, which is a bit long for our needs.

3 > Click the BPM Factor parameter and select 4x. This sets the timing to a resolution of one bar. Now we can program our ducking curve much more easily. Drag the node at the top left-hand corner of the panel down to the bottom to set the whole bar to silence.



4 > Next, click a quarter of the way through the bar (use the lines in the background as a visual guide) to create a new node. Drag this to the top of the panel, then click again to create another node and move the second node to the bottom of the panel. This will create a rising movement on the first beat.

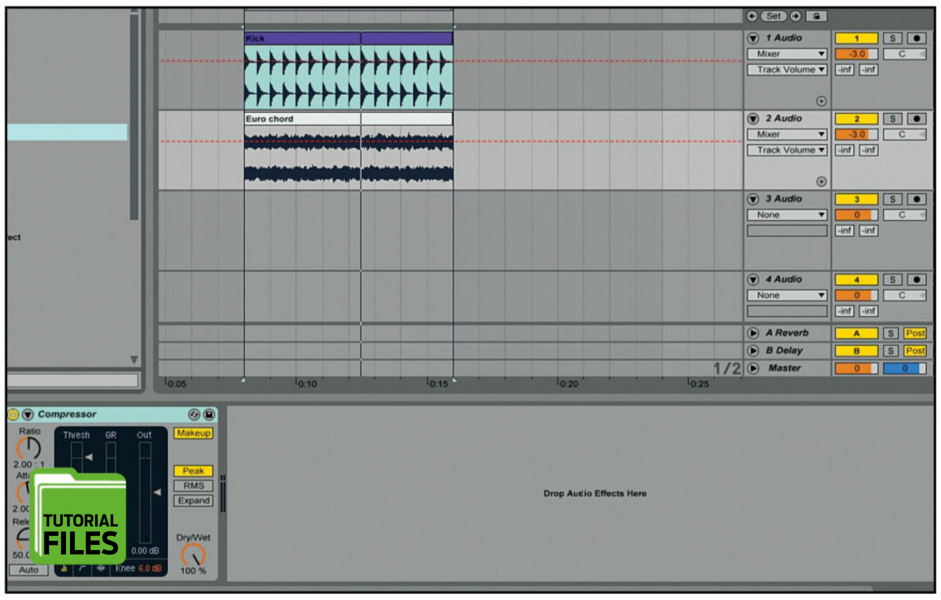


5 > Click the node at the top of the panel and you'll see two curve points appear. These can be used to adjust the shape of the envelope on each side of the node. Drag the curve on the left-hand side of the node downwards to make it more concave.

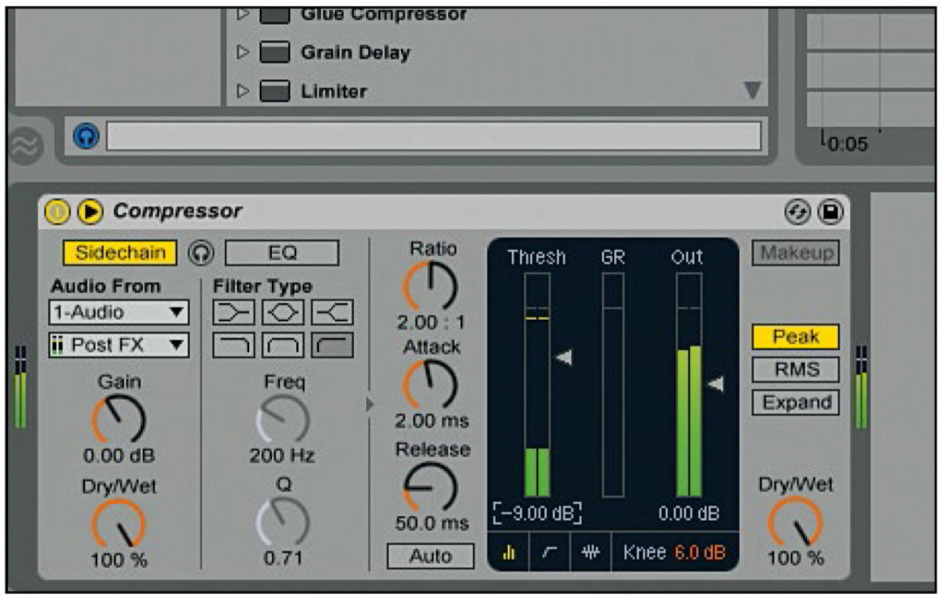
6 > Click the first node, then drag the curve point to the right of it up to get a more slinky shape. Because we can position each node manually, we can use this to duck the track with rhythms that are more complex than single repeating cycles, like the 2-step pattern illustrated above. The Depth knob controls the strength of the effect. (Audio: 2-step ducking)

> Step by step

3. Fine-tuning sidechain compression in Ableton Live



1 > Let's see how adjusting parameters other than the Threshold in Live's Compressor affects things. Drag Kick.wav and Euro chord.wav onto separate audio tracks in Live. Set both their levels to -3dB and add a Compressor device to the Euro chord track.



2 > Click the triangular disclosure button to open the Compressor's sidechain section, then click the Sidechain button to activate it. Set the source to the kick track and bring the Threshold down to -9dB. You'll hear the pumping effect kick in. (Audio: Pumping chord.wav)

3 > Click the RMS button to change the detection mode. In RMS mode the compressor is less sensitive to short peaks, which gives us a gentler, less obvious effect. Next, try Expander mode. In this mode the signal actually gets louder when the Threshold is exceeded – not that useful for ducking effects, but worth knowing nonetheless!

4 > Return the mode to Peak, and turn the Ratio up to Inf: 1. As you can hear, this makes the effect much stronger and allows us to hear the effect of the Release knob more easily. Gradually turn the Release up and you'll hear the chord become more and more suppressed as its level takes longer and longer to return to normal after each kick. (Audio: Long release.wav)

Four classic sidechain compressor plugins

FABFILTER PRO-C 2 £134
FabFilter have garnered a reputation as one of the best effects developers around, and Pro-C lives up to that reputation with great-sounding compression modes and a ton of flexibility. Its program-dependant attack and release curves and soft/hard knee options make it one of the most comprehensive dynamics processors money can buy.
fabfilter.com

VENGEANCE PRODUCER SUITE: MULTIBAND SIDECHAIN 3 £85
Multiband Sidechain 3 splits the audio signal into two bands, each of which has its own settings. This is helpful when working with big, full-frequency sounds, as the low end can be kept relatively clean, say, while the highs are pushed harder. The plugin can also be triggered by MIDI note input and synced to the host tempo.
vengeance-sound.com

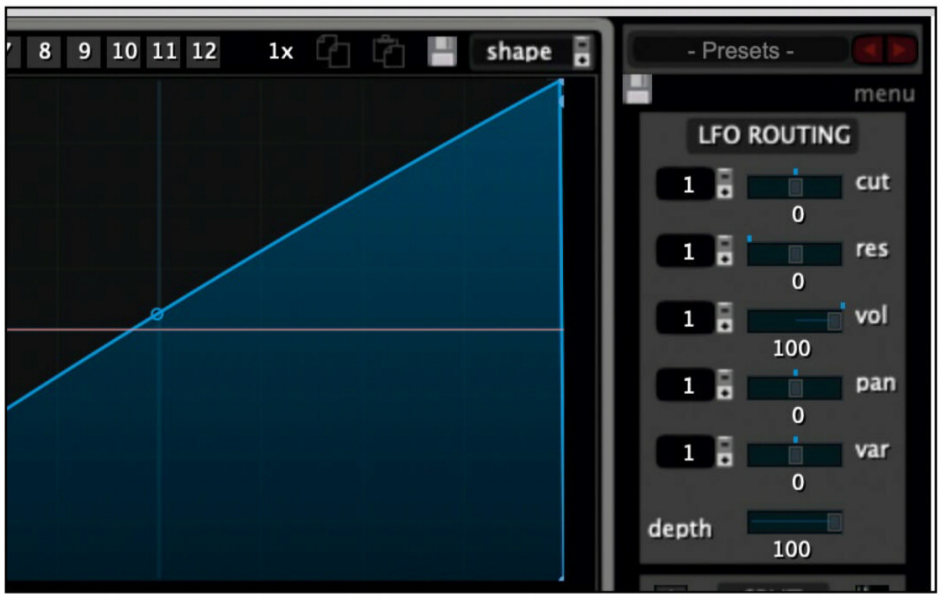
NICKY ROMERO KICKSTART $15
As a DJ, producer and label owner, Nicky Romero knows a thing or two about music production and developed this with plugin experts Cableguys (who also offer plenty of other options including Shaperbox). This comes up in the top 5s of many a producer we have interviewed thanks to its price, straightforward UI and simple ease of use.
kickstart-plugin.com

WAVES H-COMP HYBRID COMPRESSOR $150
This vintage-style compressor is packed with useful features, including tempo-synced release, transient pass-through punch control, analogue character modes and an output clipper/limiter. Despite the wealth of features, its straightforward interface makes it ideal for beginners, and it's often on sale for a much lower price.
waves.com

> Step by step

4. Swing ducking with Xfer Records LFOTool

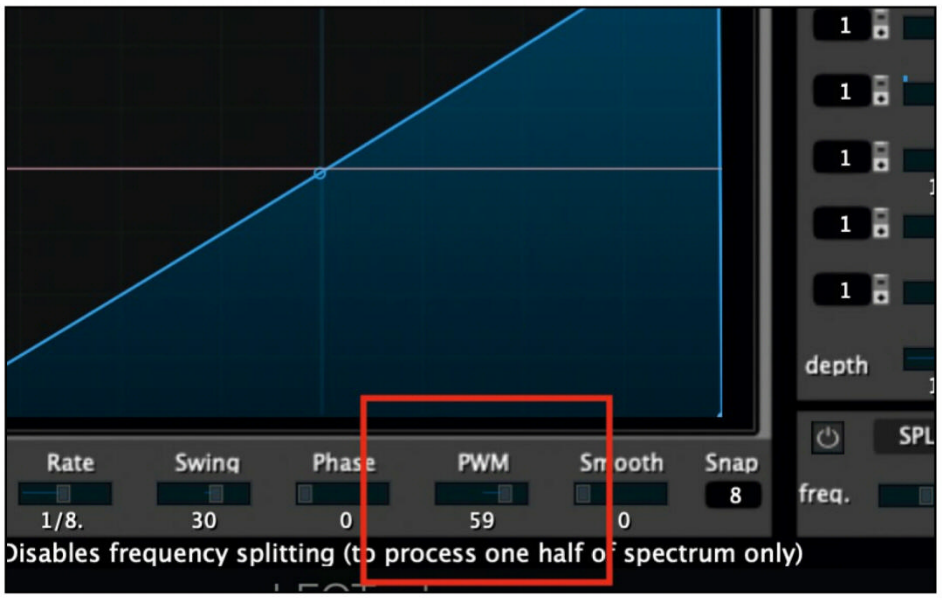
1 > Xfer Records' LFOTool ($50, demo at www.xferrecords.com) is an incredibly powerful rhythmic modulation plugin, and its Swing parameter makes it particularly useful for creating pumping sidechain compression-style effects that go nicely with shuffly house rhythms. Create an audio track in your DAW and drag Euro chord.wav onto it.



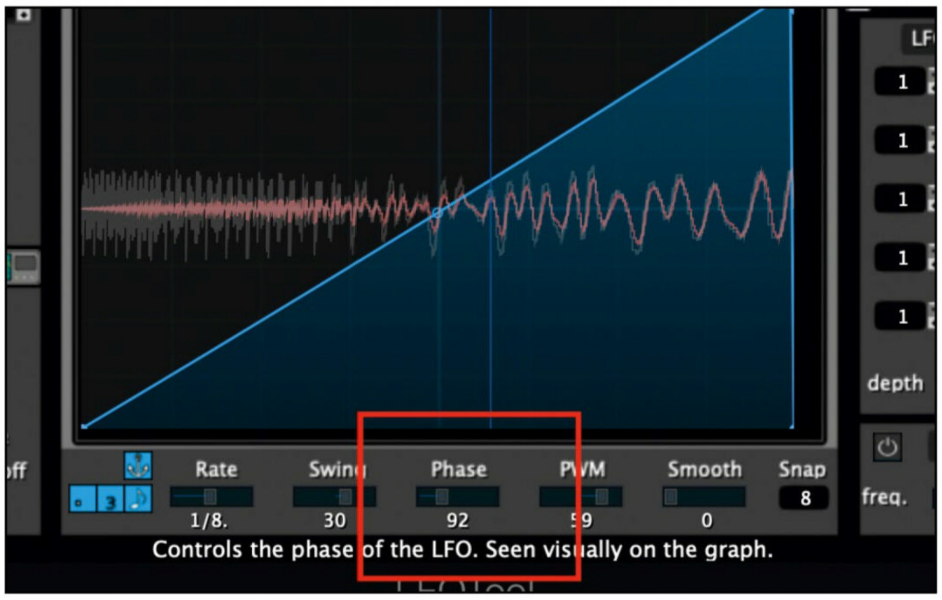
2 > Insert LFOTool into the channel. At first the plugin won't make any difference to the audio output, because all of the LFO routings on the right hand side of the interface are set to 0. To apply the LFO to the output level of the audio, turn the Vol fader up to 100.

3 > This gives us a fast tremolo effect. Normally for this kind of effect we'd want the Rate to be set to 1/4 rather than the default 1/8 we have here, but this resolution is actually perfect for getting the swing feel we're after. We do, however, need to change the shape of the LFO. Drag the node at the bottom of the central panel to the bottom left hand corner as shown above. (Audio: Straight pump.wav)

4 > This changes the shape of the LFO from triangle to sawtooth. Now, as you turn up the Swing parameter below the central window, you'll hear that every other cycle of the LFO is delayed more and more, giving the pad a swung rhythm. This technique can be used to give a track an implied shuffly groove without clogging the mix up with additional sounds. (Audio: Swung pump.wav)



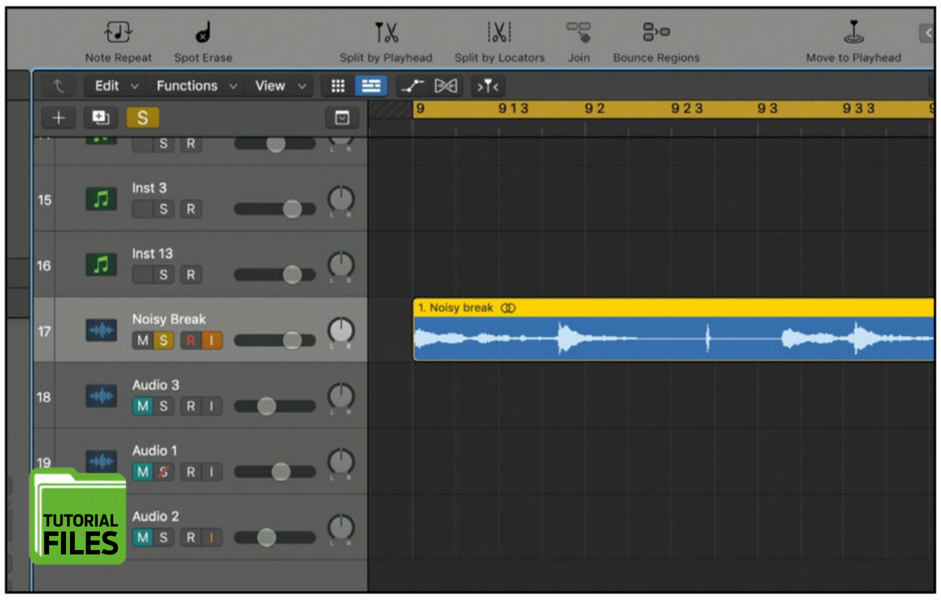
5 > You can control the shape of the LFO with the PWM parameter. Higher settings make the curve increasingly concave, which – along with the Vol modulation amount – can be used to fine-tune how the ducking effect sits with your drum sounds.



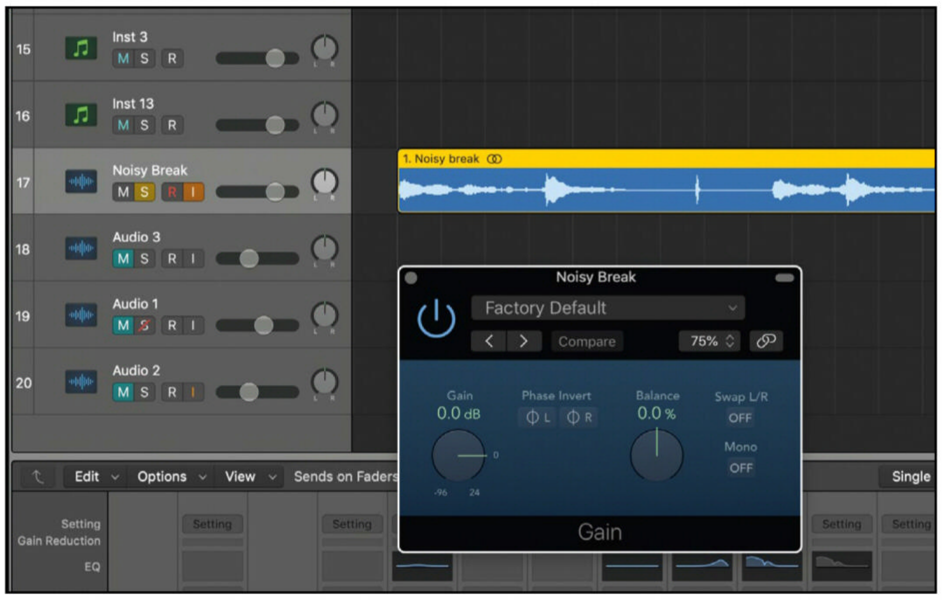
6 > Create a new audio track and drag Beat.wav onto it. Gradually turn up the Phase parameter. This offsets the start of the LFO and can be used at low settings to alter how the LFO movement interacts with the transient of the beat, or with higher values to create syncopated rhythms. (Audio: Increasing Phase value.wav)

> Step by step

5. Manual ducking in Apple Logic Pro

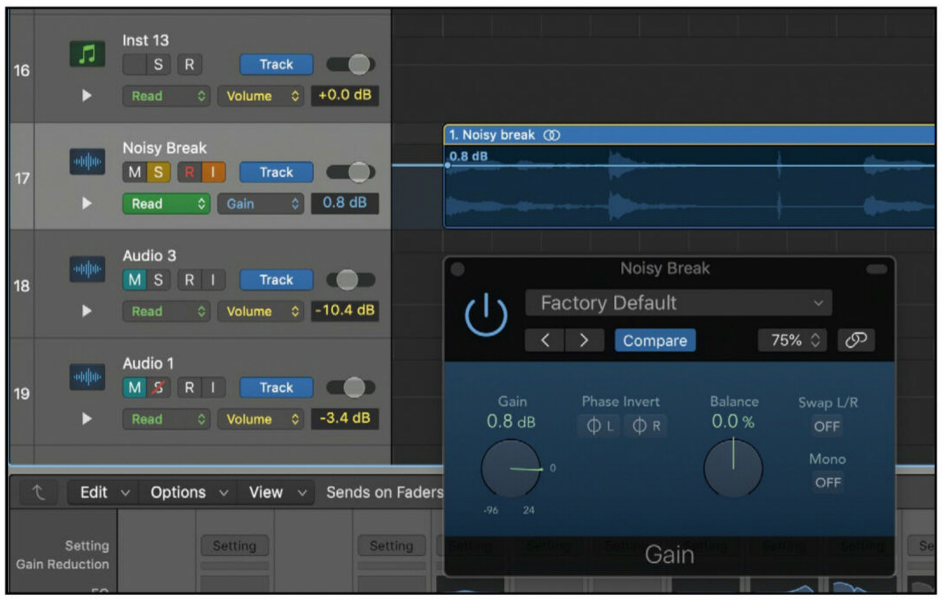


1 > Some producers prefer to create their own ducking effects manually, which can be achieved by simply automating a plugin's gain parameter. Let's see how this is done in Logic Pro. Create an audio track, set the tempo to 140bpm, and drag Noisy break.wav onto it from the Tutorial Files folder.

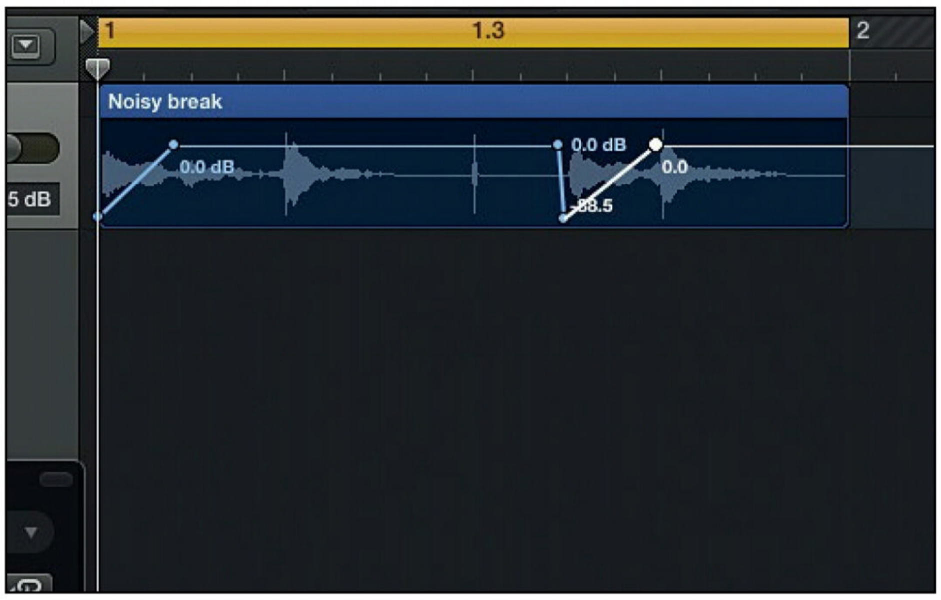


2 > We could just automate the track's volume fader, but this might become inconvenient down the line if we want to change the overall level of the track. Let's use a dedicated plugin instead. Click the Audio FX button in the Inspector and select Utility»Gain»Stereo from the list of effects.

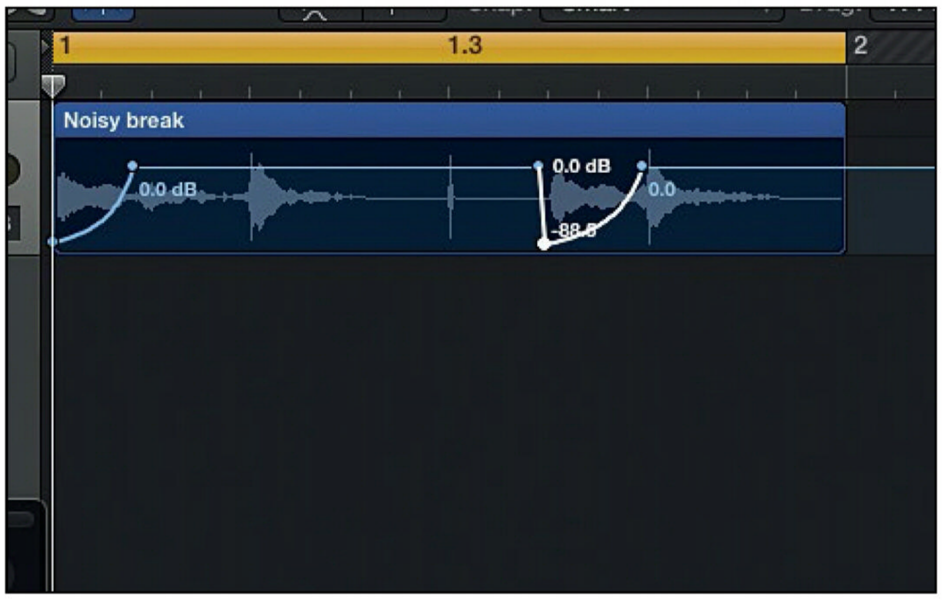
3 > We can automate the Gain fader on this effect to take the track down to -96dB, which is plenty for our purposes. Let's use this to duck out the kick on the first and sixth eighth-notes. Click the Show/ Hide Automation button, or press the A key to bring up the automation track.



4 > The Automation Parameter is currently set to Volume. Click it and select 1 Gain»Gain – the track will display the automation curve for the Gain effect's Gain parameter. We can add adjustable 'handles' to the curve by clicking on it. Create two handles at the start of the curve.



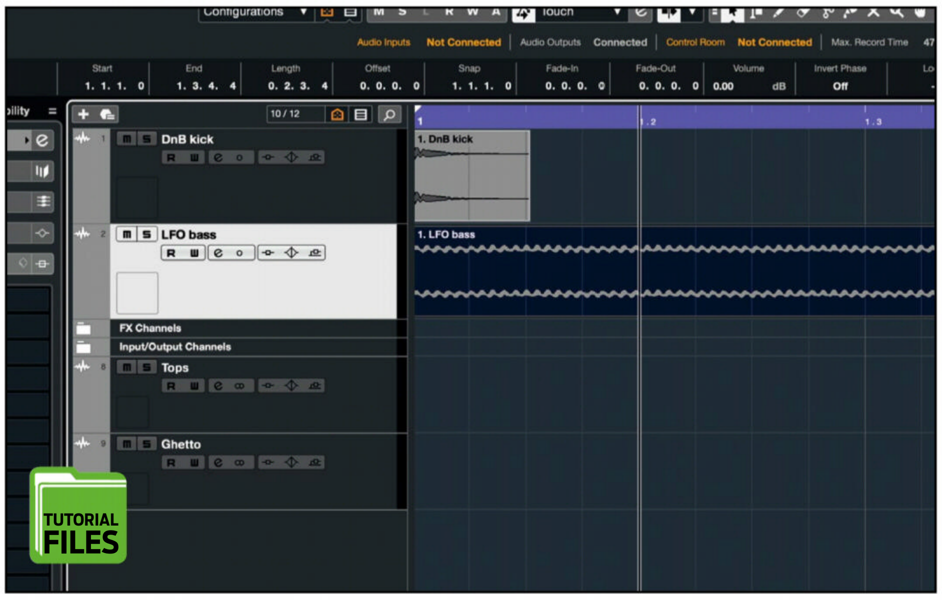
5 > Move the first handle to -96dB at the start of the first beat, and the second to 0dB at the start of the second eighth-note. On playback you'll hear that this gives us a sidechain compression-style effect, with the kick fading in. Use the same process to duck out the kick on the sixth eighth-note, too. (Audio: Ducked kicks.wav)

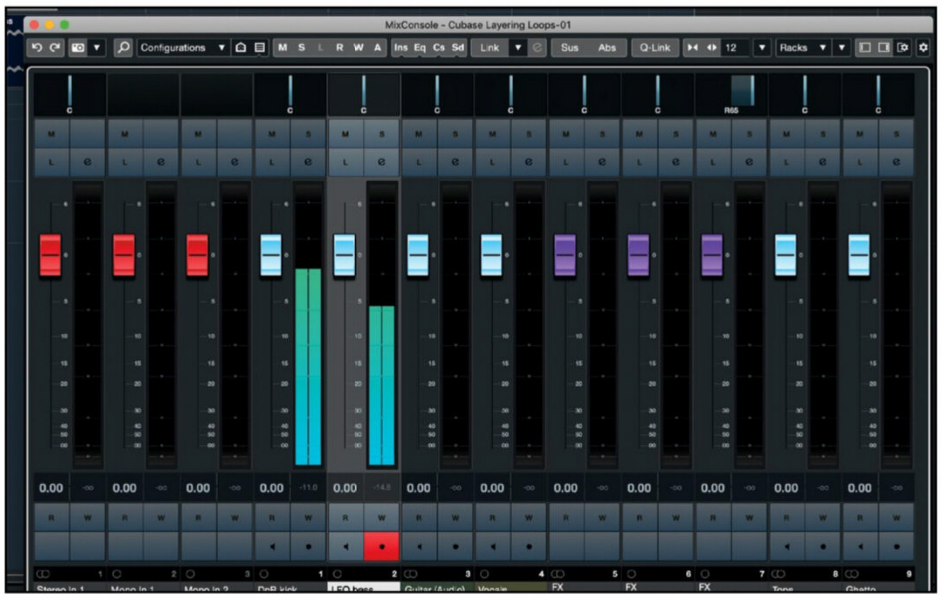


6 > You can tailor the effect by adjusting the depth and shape of the Gain parameter envelope. Logic's Automation Curve Tool makes this easy. Select it from the Tool Menu, then drag the ramps down to curve them, as shown in the screenshot above. This makes the ducking effect sound more like a high-Ratio sidechain compression effect. (Audio: Curved automation.wav)

> Step by step

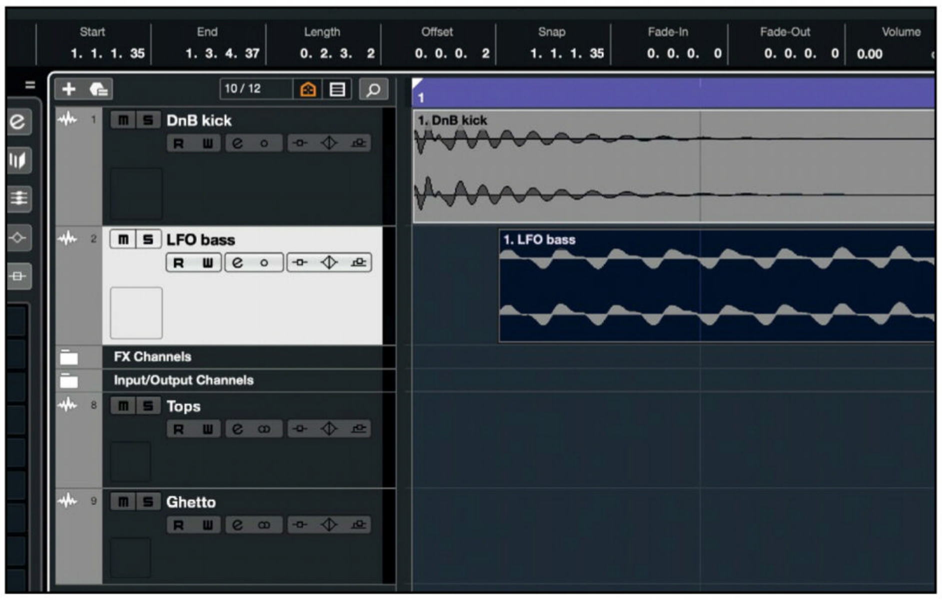
6. Ducking with audio edits in Cubase

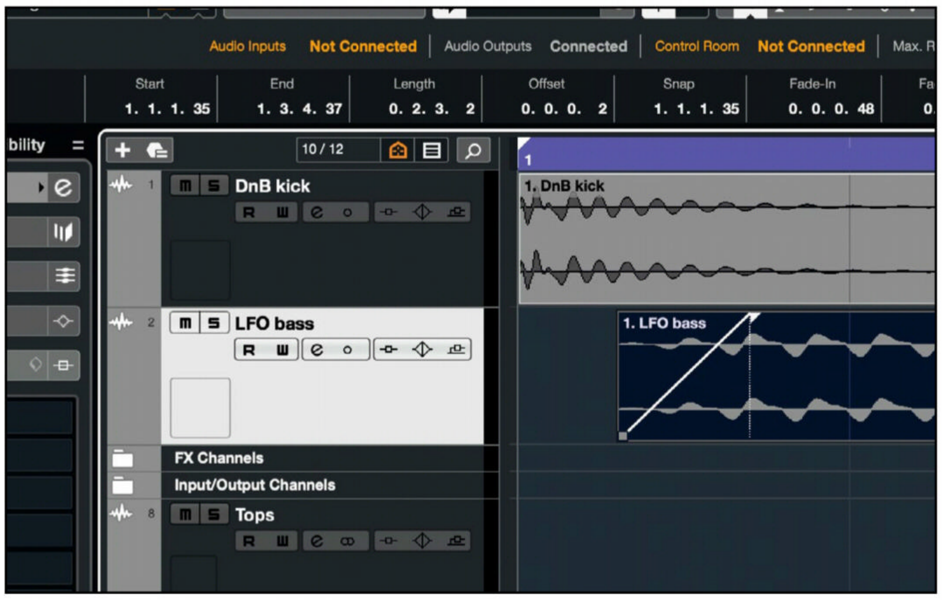




1 > Using plugins is all very well, but there's nothing quite as satisfying as getting hands-on with audio start points and fade curves. This enables us to really fine-tune the interaction between two sounds and helps us squeeze every last drop of potential loudness out of our mix. Start by dragging DnB kick.wav and LFO bass.wav onto separate audio tracks in Cubase at the start of bar 1.

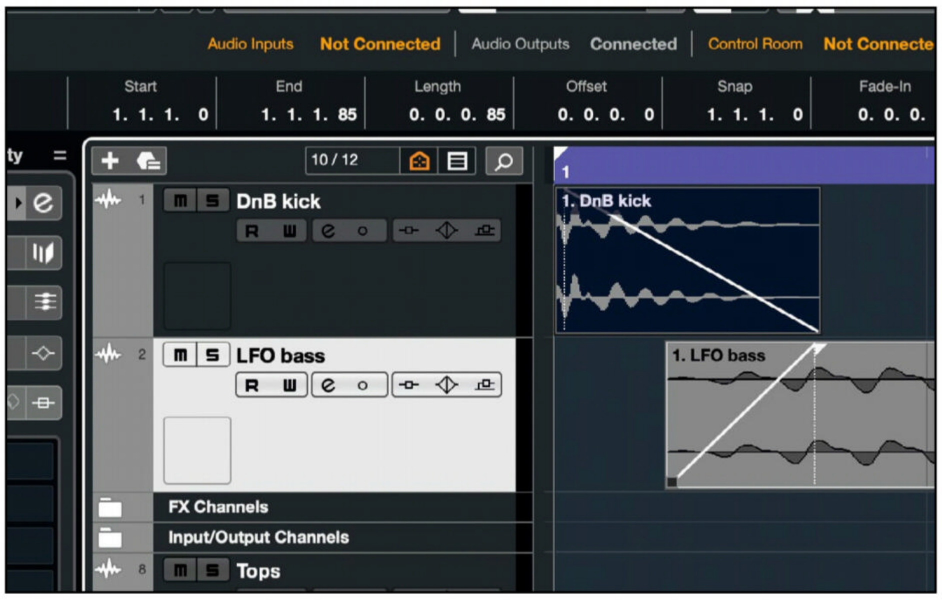
2 > By checking the peak level on Cubase's master fader, we can see that when the sounds are played simultaneously they peak at -7.6dB. Let's see if we can get this peak level down while maintaining the solidity of the sound. At the start of the sound, we only really need to hear the kick drum's attack transient, and we can do without the bass until that has passed. (Audio: Kick and bass.wav)

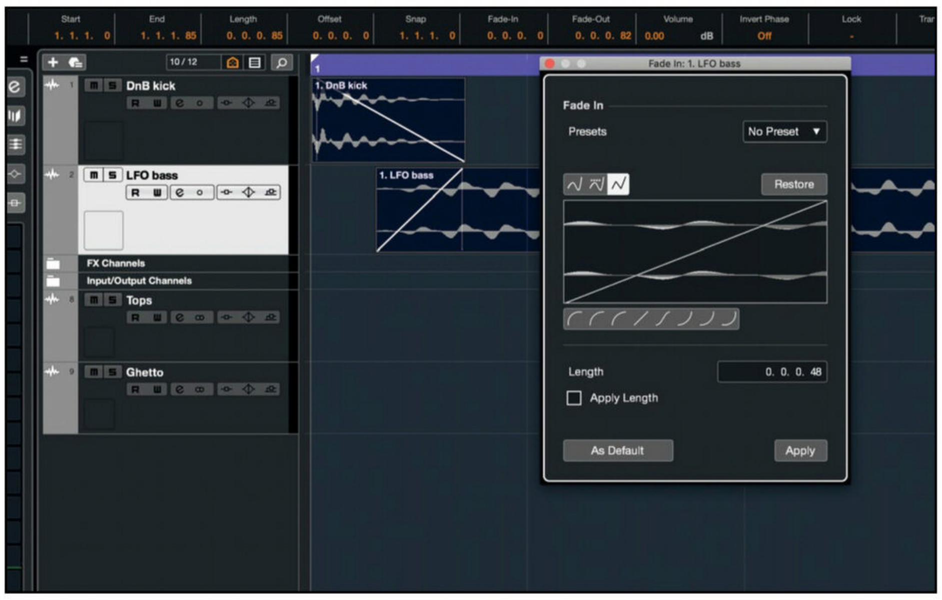




3 > Press the J key to turn Cubase's snap to grid function off, and drag the left-hand edge of the bass sample to start at 34ms. On playback it's not obvious that the start of the bass has been delayed, but there is an audible click caused by the audio starting at a non-zero value. (Audio: Bass click.wav)

4 > We can smooth this out by fading the bass in. Drag the triangle at the top left-hand corner of the kick to the right so that the fade lasts until about 86ms. Play it back again and you'll hear that the click has gone. (Audio: Bass without click.wav)



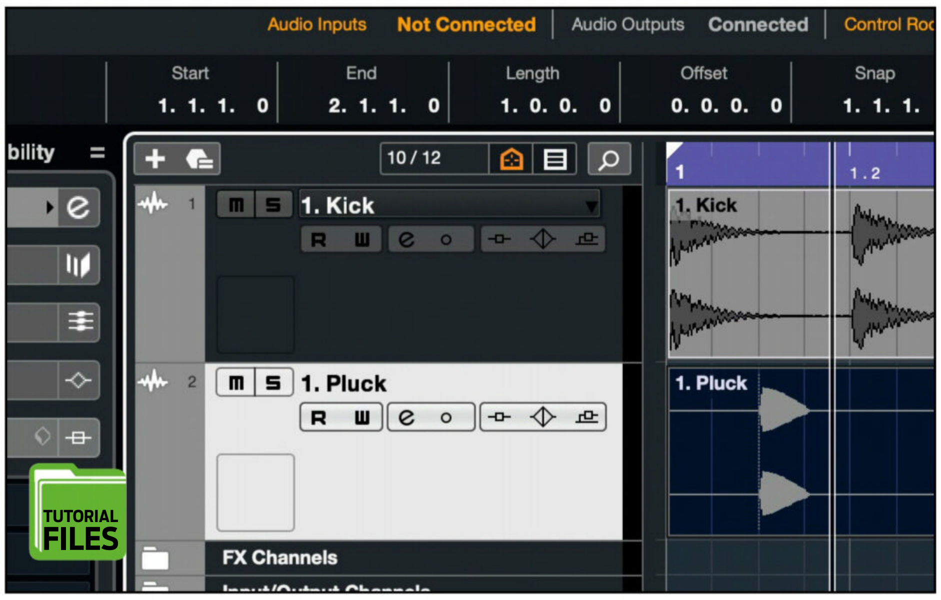


5 > While we're at it, let's fade the kick out as the bass comes up. Move the end of the kick to the point at which the bass has faded in, and drag the kick's fade so that it starts at the same time as the bass. (Audio: Faded kick.wav)

6 > Click the master channel's Meter Peak Level to reset it. Play the project back and you'll see that the master now peaks at -11dB. This means that we can turn the kick and snare up 3.4dB and the master will still only peak at the same level as it was in Step 1. For yet more control over the sound, change the shape of the fades with Audio»Open Fade Editor(s).

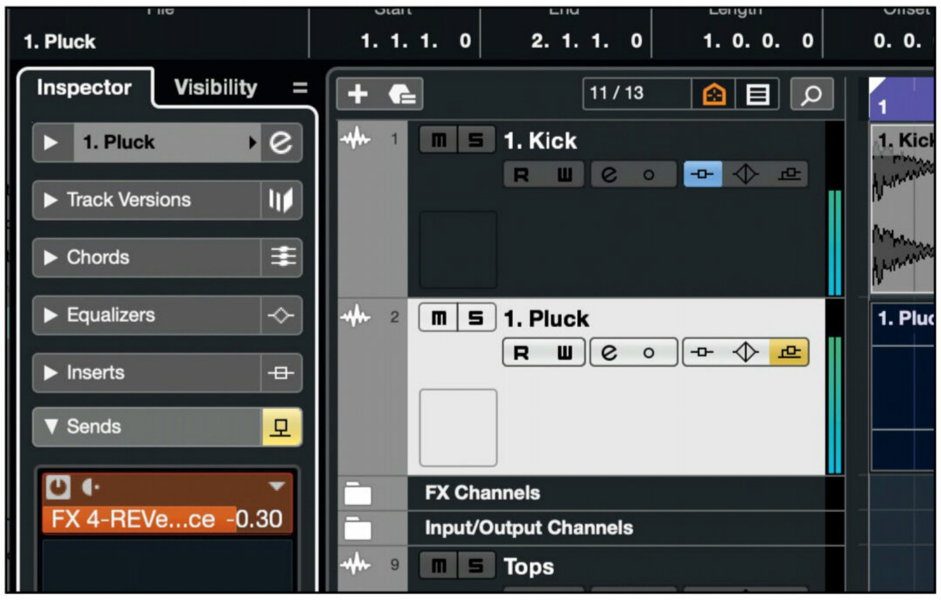
> Step by step

7. Cleaning up send effects with sidechain compression in Cubase



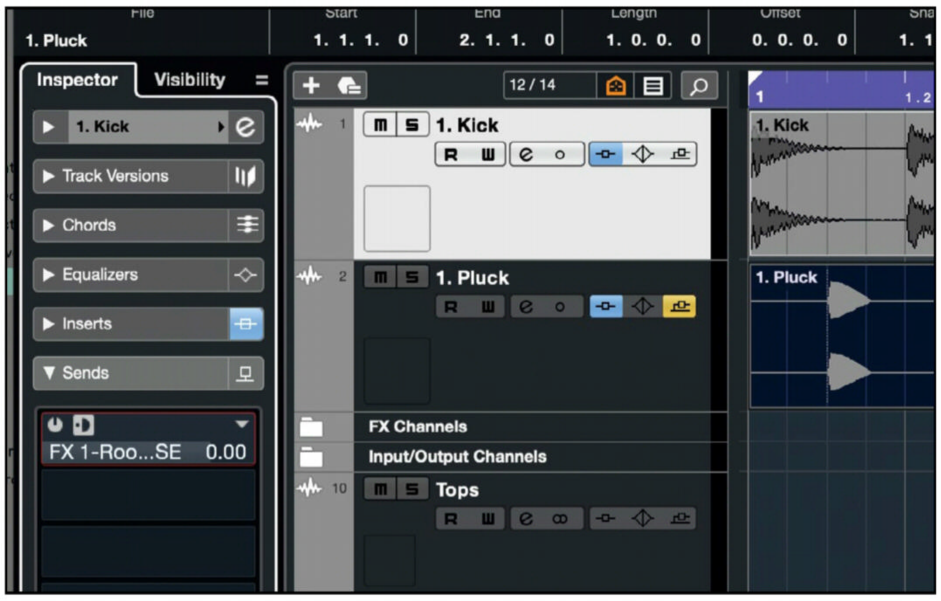
1 > Reverb and delay effects sound great, but they can also clog up a mix and prevent your beats from having as much impact as they should. Let's see how we can use sidechain compression to alleviate this problem in Cubase. Load Pluck.wav and Kick.wav onto separate audio tracks.

2 > Right-click the track to add an effect, or navigate to the Inserts effects rack. Set the effect to REVerance from the Reverb folder. Click the Browse slot at the top of REVerance's interface to bring up the list of available presets, and select Far Away.

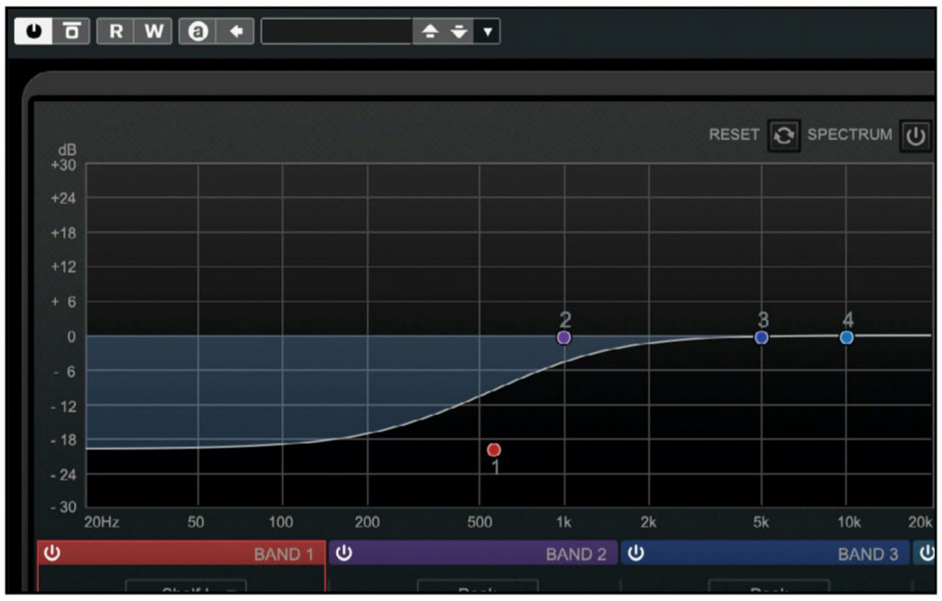


3 > Click the Pluck track, then click Sends in the Inspector. Click the triangle in the first slot and a list of possible destinations will appear. Select FX4, then click the power button to activate the routing. This reverb sounds impressive, but it gets in the way of the kick. (Audio: Reverb.wav)

4 > Click on the FX track, and add a Compressor from the Dynamics menu to the Inserts strip. Click the Activate Side-Chain button at the top centre of the interface, then select the Kick track and bring up its Sends strip.



5 > Click the triangle on the first slot in the strip and this time select Side-Chains»FX 1» Ins. 2 – Compressor. Click the power button to activate the routing. Now the kick drum is feeding the sidechain on the reverb send, and the kick punches through the mix more. (Audio: Sidechain reverb.wav)



6 > The reverb's lows are still detracting from the kick a little, so let's subdue them with some EQ. On the FX track's insert chain, add StudioEQ from the EQ folder, then click Band 1's power button, turn its Gain down to -20dB and set its Freq(uency) to 560Hz. This gives us a much cleaner sound. (Audio: EQed reverb.wav) **cm**

15 questions with...

AMON TOBIN

Amon Tobin's new release, *How Do You Live*, marks his 25th year in music. Working under four aliases and across more than a dozen albums, he's transmuted elements of jazz, drum & bass and trip-hop into his own brand of intricate, brooding electronica, developing a sound and method that's defined by process and technique – not genre or style. But, we hear you ask, what are his favourite plugins?

> The producer's latest studio album sees him continuing his exploration of new frontiers in sound design, blurring the boundaries between the acoustic and the electronic by using synthesis to model imagined instruments and processing guitars and vocals beyond recognition. Tobin talks us through the studio equipment and techniques he used to achieve the unique sound of his new record, and reflect on 25 years spent working at the forefront of electronic music...

1 This year marks the 25th since your debut release. Do you feel as if you're still learning new things as you continue to progress as a musician?
Amon Tobin: "It's a bit like a feedback loop, where the things you make spawn new things that you make in perpetuity... a beautiful spiralling madness."

2 What moment or (moments) in your career are you most proud of?
AT: "I've had so many moments where I caught myself wondering how I managed to end up where I was. Looking out at all those people

from all those famous stages around the world. What I'm most proud of is a sense of contribution to what a new generation of artists are doing now, because it's never something I expect to hear. I feel immense pride whenever a new producer tips their hat my way."

3 Tell us about your current studio setup and what you're working with.

AT: "My studio's always been small but filled with things I love. Sound sources are mainly from physical synths, paired with DSP-based processing for more esoteric stuff. Processing is mostly hardware with my favourite outboard routed as hardware inserts.

"For anyone who's interested, we made a little video series of various things in my studio."

4 Which DAW(s) are you using most in your production and why?

AT: "I use Cubase because it's what I know best and because it's done a really good job of evolving over the years. Also I use Kyma, although I have to relearn it every time I look away for too long."

5 How much of your production is done in-the-box with software as opposed to using hardware?

AT: "It's mostly hardware. It sounds better not because it's hardware, but because it's just a bit more fun."

6 Of the software you use, what are your favourite plugins?

AT: "I like FabFilter and Soundtoys for everyday stuff. I think Kush Audio's AR-1 is one of the best emulation compressors. It seems like more VSTs are going the FabFilter way in terms of interfaces that are unapologetically not hardware and therefore not trying to look like hardware, which is a good thing."

7 Does anything annoy you about current software design?

AT: "I just hope the trend towards oversimplification with one-knob style VSTs might also be short-lived. It's not a practical position to take. It promotes the process of making music and an irregular path to creation as an end in itself."

8 What other studio technology would you like to see developed in future?

AT: "I'd like to see vocal pitch-tracking software explored more; that and less clunky audio analysis/audio morphing tools. The things I've been doing with Kyma for over a decade and which I'd love to see elegantly realised as standalone VSTs. I've seen various iterations but

"My studio's always been small but filled with things I love"

there's plenty of room for development I think."

9 Tell us about your latest album, *How Do You Live*. What were the primary inspirations behind the record?

AT: "Technology, feelings, and revenge."

10 Have you experimented with any new production processes or studio techniques in the making of this new album?

AT: "I try to bring everything I've learned over the years to realise what I'm doing now as best I can. These techniques become a language in a way, or a kind of expanding vocabulary. So I try to keep in mind that although a language can be beautiful in itself, the hope is still to say something that's meaningful."

11 If you had to choose one piece of studio gear that was fundamental to the making of the new record, what would it be and why?

AT: "Apart from the sound sources, I wouldn't say any one piece of gear was vital, but definitely a bunch of things were preferable. At least as far as the record having the sound it has. I think the RND EQs and diode bridge compressors had a lot to say about the overall sound, which is quite thick with rounded edges.

"Retro Instruments' Revolver on the master bus together with Manley Massive Passive EQ helped give mixes a depth of field sense I would have struggled to achieve otherwise, too. Basically lots of tubes."

12 You described the single from the new album, *Phaedra*, as an "experiment with harmonics" and a "physical model of a saxophone" – could you go into some more detail around this and the creative process behind these sounds?

AT: "You can go a long way with short delays, feedback loops and resonant filters to make an alien reed instrument in Eurorack, but Edmund Eagan's DSP-based physical modeling kicks yours in the dick every time.

"I don't think it's useful to get too deep in the weeds about when and where and what is used, but one thing definitely informs the other on this track."

13 You also released an album under the alias Stone Giants this summer. What makes your work under this alias different from your work as Amon Tobin?

AT: "Stone Giants' *West Coast Love Stories* is an electronic album of vocal-based love songs. Although I've featured my own voice loads over the years under my own named music, it's never been that explicit."

14 Both of these records are being released on your own label, Nomark. Is this just an outlet for your own work or are you planning on releasing the work of other artists in future?

AT: "Stone Giants, Figueroa, Only Child Tyrant and Two Fingers along with my own name make up the entire roster for Nomark Records. It's important for me to get across the point that these aliases aren't side projects. They are independent entities that I've been developing for several years.

"All of them are electronic music but they start from very different places. Figueroa, for example, sounds like it could be a folk guitar record but it isn't, it's an entirely electronic record. Only Child Tyrant sounds like mad drums and guitar riffs, but it's synths and elaborate programming.

"The point is, I think, that electronic music is defined by its process and not necessarily its genre. I'm defined as an electronic artist, which is fair because that's how I make music, but that doesn't have to define the kind of music I make .

"Separating these projects out clearly under different names gives me the freedom to explore and develop each alias in its own lane as far as I want to. Having them all under one label lets me unify them as a body of work."

15 What future projects do you have coming up on the horizon?

AT: "I'm working on developing each of the aliases on Nomark for their next releases. There's even a chance I might start signing artists that aren't me for next year, which would be quite a relief at this point!" **cm**

Amon Tobin's album *How Do You Live*, is out now on Nomark Records

Kush Audio's AR-1 avoids the wrath Tobin reserves for single-knob plugin affairs

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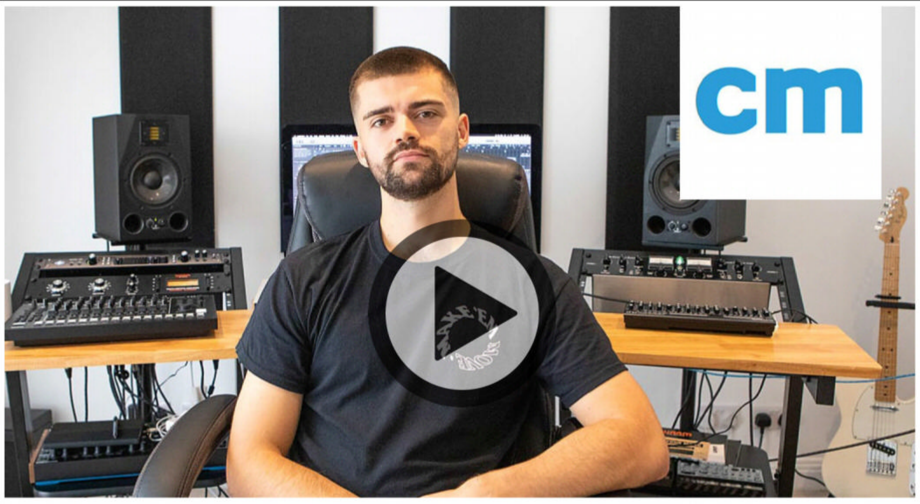

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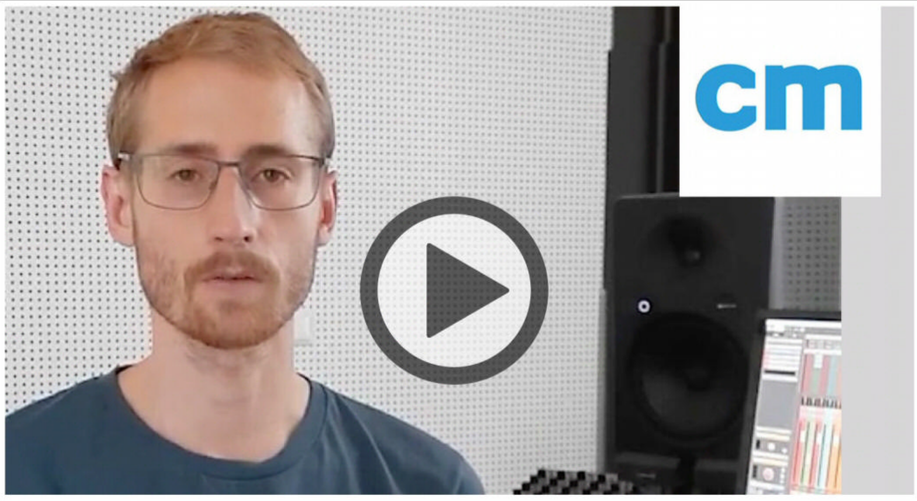

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The latest computer music gear tested and rated!

68__CHERRY AUDIO MERCURY-4
A recreation of Roland's Jupiter-4 – the under-appreciated sibling of the mighty Jupiter-8 – for just 30 quid? Don't mind if we do...

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5__This product's problems outweigh its merits

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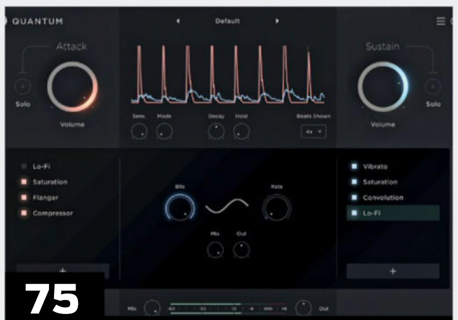

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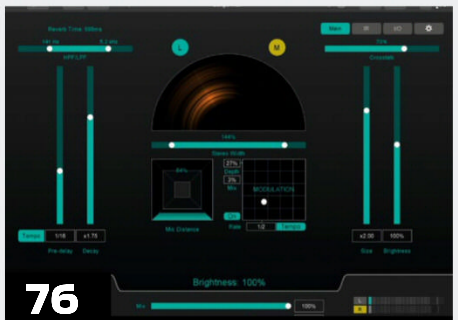

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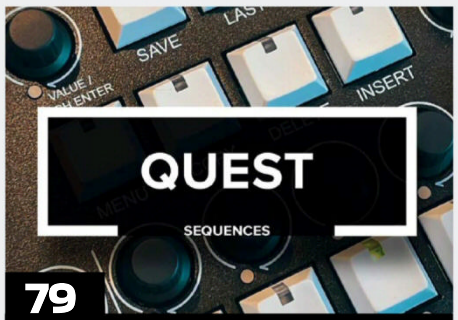

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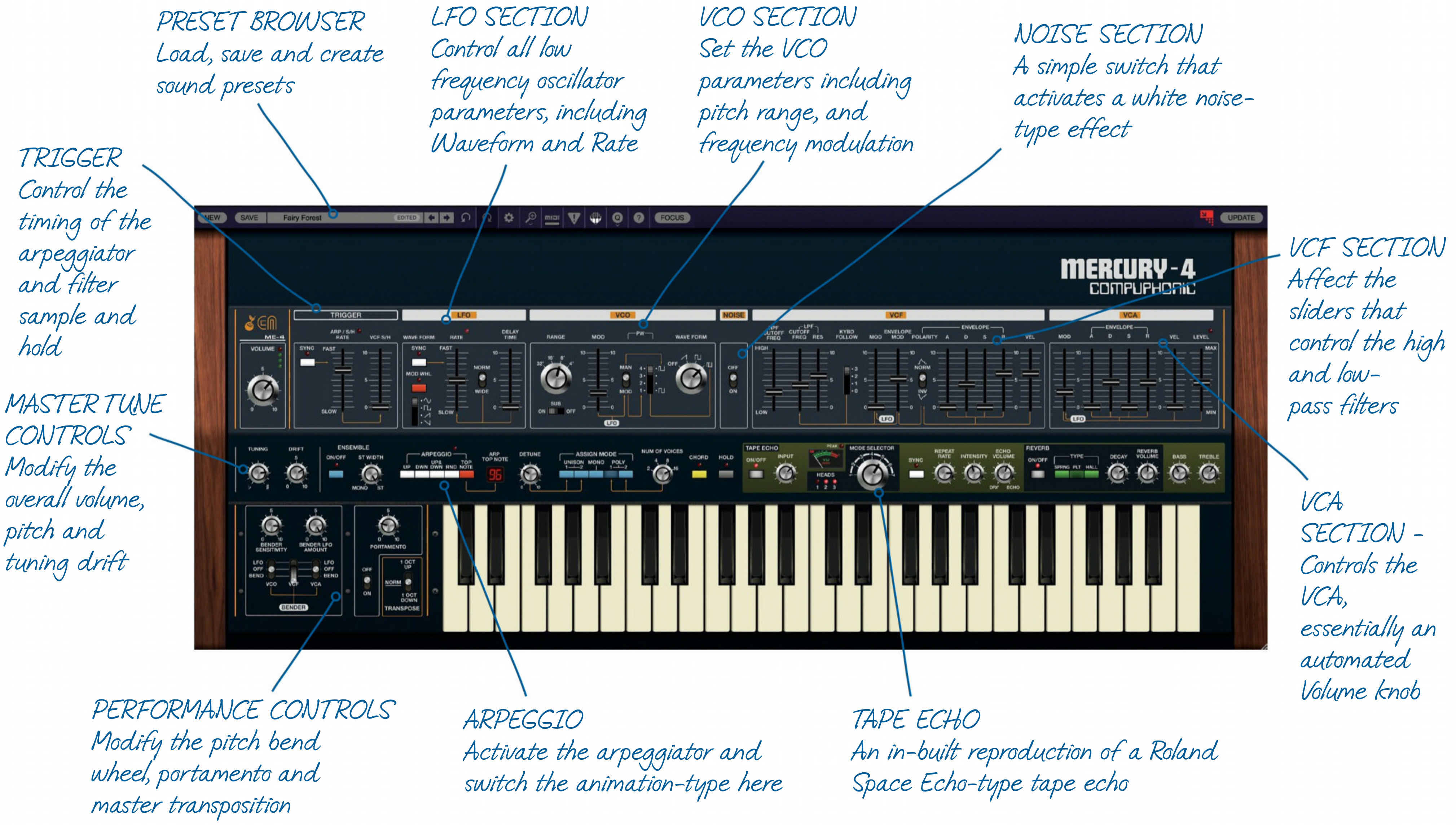


Cherry Audio **Mercury-4** £30 PC MAC

The bygone, underappreciated Jupiter-4 hums with life once again, thanks to this new, intricately modelled software adaptation

> Roland's Jupiter series is often held aloft as one of the most important synthesiser lines of all time. There's good reason for that, of course, with 1981's state-of-the-art Jupiter-8 igniting the potential of keyboard analogue synths as slick and cool sound-crafters to many for the first time. Its kinetic stew of sounds informed the development of synth pop, new wave and bombastic rock, continuing to be used all the way into the dance music decades. With a veritable who's who of artists pulling futuristic sounds from within its tantalisingly colourful veneer on *Top of the Pops*, many Vince Clarke wannabes hankered for this tomorrow-proof instrument. While a far more affordable version – the Jupiter-6 – was released shortly after, what many didn't realise was that the Jupiter-line's arrival was heralded by its clunkier precursor, the Jupiter-4.

Released in 1978, this little-loved, diminutive four-voice, polyphonic synth wasn't all that visually appealing, with its surrounding wooden enclosure and tacky push buttons not exactly the most compelling of designs. Its lack of MIDI and CV/Gate, not to mention its single VCO-per-voice architecture, were all further reasons why this initial Jupiter mission piffled out at launch.

Still, there were those who found much to relish, including The Human League's Phil Oakey, Thomas Dolby and The Cars' Greg Hawkes. In fact, it is Hawkes' own Jupiter-4 which Cherry Audio have carefully modelled here. The resulting product is Mercury-4, a complete softsynth recreation of the Jupiter-4. Now sporting a few added enhancements, we wonder if this digital resurrection has super-charged this maligned machine.

Fantastic four

Installation is extraordinary simple, and within minutes we've got our AU instance of Mercury-4 loaded into our Logic project. The large GUI presents a largely similar (though significantly augmented) version of the original layout of the Jupiter-4. With each of the synthesiser's key control sections arranged in their respective areas of Trigger, LFO, VCO, Noise, VCF, VCA, and Performance Controls.

Comparing it side-by-side with an original Jupiter-4 exterior reveals a few striking innovations that Cherry Audio have brought to the table, however. Most obvious is the incorporation of a Space Echo-eseque tape echo and reverb simulation into the plugin. Presented in a suitably green-tinted section to the upper right of the keyboard display, the Space Echo sim is a sweet addition, with a light application of genuinely spatially enhancing pretty much all of the synth's sounds.

So what of these sounds then? After all, it's certainly the unit's distinct tonal characteristics that spurred its cult of aficionados. In the top left we have the preset selector, which handily

> "It's plainly apparent that there's a lot more to Mercury-4 than meets the eye"

divides over 400 sounds into their respective categories, including leads, basses, arpeggios and pads. There's a distinctly retro flavour to the vast majority of ready-to-go sounds, particular when cycling and triggering the arps. Those designing quirky video game soundtracks will find a lot to mine from here. Our quick preset skim highlights include the spritely, 8-bit-sounding Brush Taps, the arpeggiated Square Space and stinging Edgy Arp, and the emotive Modern Classic bass sound. While many sounds have that 70s kitsch quality to them, it's plainly apparent that there's a lot more to Mercury-4 than meets the eye.

Cherry on top

Mercury-4's sonics might have something of a day-glo veneer, but it's clear that there's a lot of sound-creating potential here. Lifting the hood of this software reveals a signal path built around a modelling of that original oscillator and sub oscillator, while all of the Jupiter-4's dual filter nuances have been captured with peerless detail – these sounds *feel* like they're coming out of a dusty old relic, especially when you add a touch of Drift for a little more authentic analogue unpredictability.

Not feeling content with just making an exacting remake, Cherry Audio have also indulged in a little revisionism. While the original Jupiter-4 was limited to just eight memory locations for homemade sound design (saved via its 'Compuphonic' internal storage) we're now gifted with infinite scope for preset-saving. Full 16-voice polyphony over the original's four and – perhaps the most attractive new aspect – MPE support.

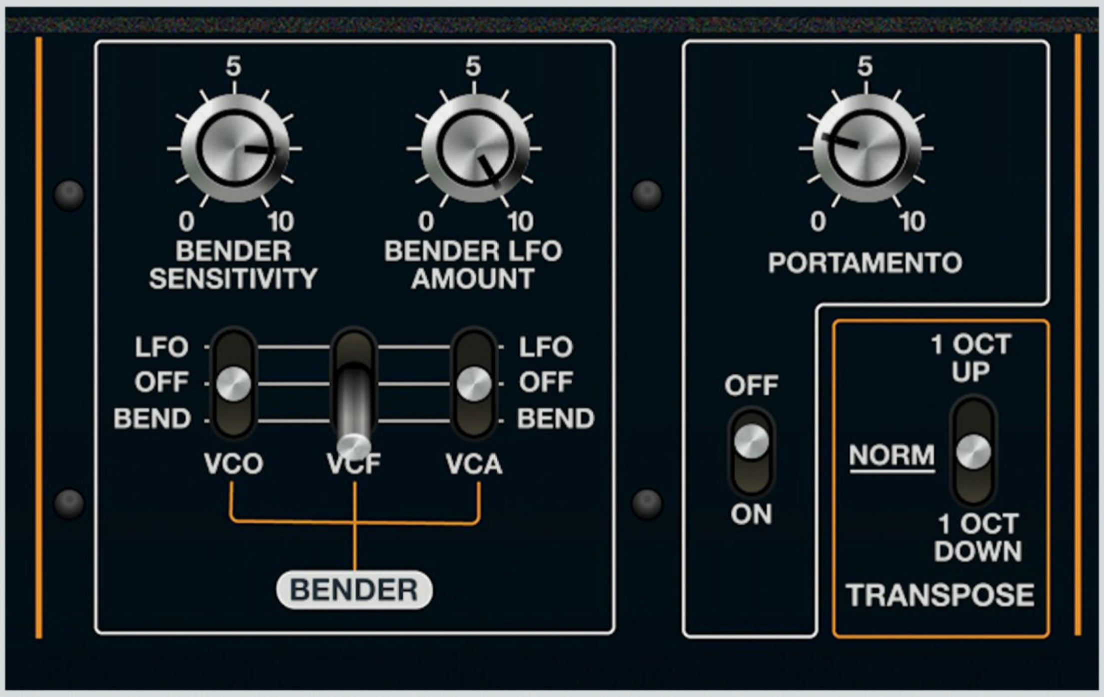
Controlling these sounds via MPE reveals new dimensions which would have been unimaginable back in '78. Enabling MPE mode allows you to map an array of parameters to your MPE device, across the three standard dimensions of pitch, pressure and timbre. While there are too many to list here, our VCO Modulation Amount and Resonance mid-performance opens up sounds in astounding new ways.

Another major high-point here is the flawless arpeggiator, controlled via simple switches and yielding pulsing runs via a unique method of implementation. Basically, the octave range is dependent on where the notes are pressed on the keyboard as opposed to being assigned manually. While initially confusing, it's quick to get the hang of when you figure out where these areas are located. The four arpeggio controls allow you to cycle between Up (lowest to highest notes), Down (the opposite), Up & Down and Random.

Mercurial magic

Whoever you are, you'll undoubtedly have a blast with Mercury-4; it's an authentic-sounding and majorly editable synth that has been replicated with absolute love and respect for its source. Whether it becomes a beneficial addition to your own tracks is another story, with its intrepid tones maybe a little too garish for many sound designers. Either way, at a double-take-inducing £30, you'd be unwise not to take a tour of Mercury. **cm**

Web cherryaudio.com



These simple switches and dials allow you to assign your pitch bend wheel accordingly

Does it bend?

Though it lacked the pitch bend wheel that its bigger brother, the Jupiter-8 would later sport, the original Jupiter-4 included a small joystick bender control on a horizontal axis that allowed some rather rigid control of VCO pitch, VCF cutoff, VCA volume or how much LFO modification is applied to the VCO, VCF or the VCA.

The Mercury-4 now allows your MIDI controller's pitch bend wheel to serve the same function, albeit more fluidly and in a more performance-ready way. It's nice to be able to jiggle around modifiers like this, developing evolving textures as modulation is introduced and removed musically.

Couple this with the velocity-sensitive MPE support and the Mercury-4 offers a radically different experience than the one offered by the hardware's original capabilities.

Alternatively

Roland ProMars
£90
A smaller variant of the Jupiter-4; this official software version has similar character to the Mercury-4

Arturia SQ80V
£145
Provides an accurate modelling of the similarly lo-fi and under-loved Ensoniq SQ-80

Verdict

For Very thorough reproduction of an often overlooked golden age synth
High quality sounds given new life
Fluid and authentic arpeggiator
Improves on the original's capabilities

Against Distinct sonic character may not be for everyone

A lovingly crafted tribute that widens the aural capabilities of this once-limited synth, revealing a colourful sonic playground

8/10

The GUI is true to the aesthetic of the original Jupiter-4, while adding a few extra goodies

Arturia SQ80 V Cross Wave synth €199 PC MAC

Arturia have emulated the SQ80 from Ensoniq, an interesting sample-based synth from the 1980s. But does it have a place in 2021?

> During the 80s, sampling technology was becoming an indispensable part of music production. The only problem was, all the really elaborate samplers came with a caveat; did you buy a Fairlight CMI, or did you buy a house? For us mere mortals, this was an easy sell – after all, a Fairlight wasn't great at keeping the rain off your head while you slept. But as sampling tech matured, so did the prices, thanks in part to the likes of E-mu, Akai and the fledgling Ensoniq.

More than a Mirage!

In 1985, this new company entered the sampling age with a debut release. The Ensoniq Mirage was a vaguely affordable sampling keyboard, produced by some of the team that had brought the infamous Commodore 64 home computer to the market. By the time the SQ80 synthesiser arrived, music was chiming to the tones of digital synths. The Yamaha DX7 and Roland D-50 were established favourites, but the SQ80 offered something slightly different, armed with its own floppy disk drive and an elegant editing and menu hierarchy.

Billed as a Cross Wave Synthesiser, Arturia have worked their magic on this lesser-seen classic, which now acquires the inevitable 'V' after the SQ80. Their concept provides all the original qualities of this early digital machine, but with inevitable elements of new-spin. The SQ80 V capitalises on Arturia's patented TAE (True Analog Emulation) technology, even though the SQ80 oscillators are pure digital and only 8-bit to boot. However, the original SQ80 filter was Curtis chip based, which is where the TAE porting to a digital domain will win through.

Ride the wave

Upon installation and load up, the first thing that strikes you about the SQ80 is that it is very stylised. As you meander through the pre-prepared patches, there's a plentiful mix of nostalgia and forward thinking. Some patches are undeniably kitsch; CLIOPE is distinctly based around one of the overused Roland patches from that era, and it's unlikely to win any new fans; too many memories! But move away from the clichés and while many of the sounds are reminiscent of a bygone age, they feel relevant, and with further processing, can definitely live again. The basic Piano patch, which has strangely been assigned to the Electric Piano category, presents a filtering grain at the front of each attack, which probably accounts for its Electric Piano status. It's got that wonderful is-it-or-isn't-it-real quality, which will sound great in numerous commercial settings.

Move over into the Pad and Sequence categories and you'll begin to hear the areas where the SQ has been extended. Pulsing, angsty modern tones are mandated here, with arpeggiation and sharpened backend effects. Even at the basic GUI user interface level,

> "We applaud Arturia for a unique take on an old classic, and the SQ80 needs more help than most"

animated waveforms gyrate in time with their modulated routing.

Going deep

The SQ80 V has three main display sectors; the Hardware display gives a clone-like image of the original, while the Synthesis and Effects displays are where the edited magic happens.

Entering Synthesis mode provides a clear representation of the signal path, beginning with three oscillators. In typical Arturia V style, all the original SQ80 digital waveforms are represented, with everything from basic Saws and Squares to more elaborate and descriptive samples of acoustic instruments. Being 8-bit in definition, many of these can sound a little crusty, but herein lies the charm of the synth, although this is far more noticeable with the complicated and acoustic samples. Apart from the basic SQ80 waveform set, there is an extensive collection of further waveforms, described by Arturia as Hidden Waveforms, drawn from both the SQ80 and its predecessor, the ESQ1. These can feel very digitised and less useable on their own, but do offer plenty of colour to blend in with the other two oscillators, if supplying more mainstream sounds.

A fourth waveform menu is described as Transwaves; these are morphable, shape-shifting waves that can immediately be controlled by modulation sources, such as LFO. This modulation can be applied at source, for ease of working.

Each oscillator accesses its own volume control, described in true 80s style as a DCA. This in turn feeds the resonant filter, modelled on the CEM3379 Curtis chip design. Arguably, this is the element that provides the SQ80 V with its charm and character, although the influence of the oscillators is undeniable.

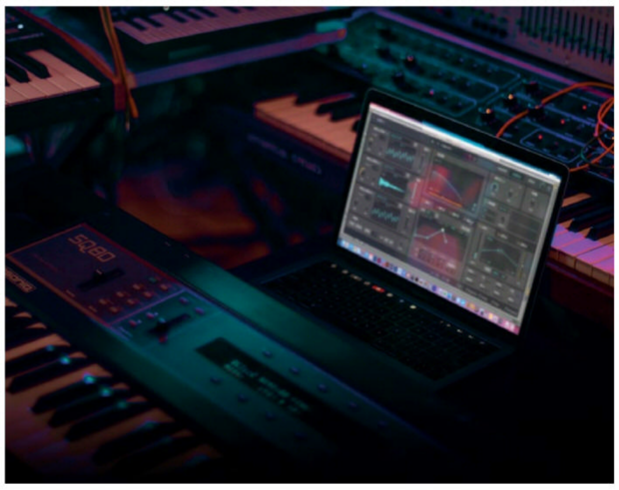
Multiple modulation sources can help create movement for amplitude, filter and wave shaping; four envelopes provide the more usual amplitude control, with further tricks available from their menus. Apart from modelled SQ80 envelopes, which are switchable between linear and exponential shapes, MSEG and DADSR envelopes are also available. The MSEG envelope offers considerable freedom to shape, in both timing and level, with a clutch of relatively complex presets for immediate use.

The crossover between envelopes and LFOs is substantial, but if you'd rather use a common-or-garden LFO, there are also three available, with six waveforms attached to each.

To the SQ and beyond

Arturia's decision to model this Ensoniq retro-classic is interesting. In line with certain other early digital synths and samplers, the SQ80 V supplies an innate sense of late 80s and early 90s character. We'd point out that by giving the SQ the Arturia treatment, it's made this time-stamped classic feel far more commercially viable than it might have been as a straight clone. The modulation options for waveform and filter control, coupled with niceties like four-layer backend effects, convince us that the inadequacies of the original synth may be catapulted to the current age, or simply auditioned with affection. A very characterful synth, with commercial grunt and nostalgia. **cm**

Web arturia.com



A classic in a modern setting

Arps and FX

We always applaud Arturia for coming up with a unique take on an old classic, and arguably the SQ80 needs more help than most to bring it kicking into the modern age. The modulation routings are comprehensive with this synth, albeit via the use of some relatively small 'amount' dials, but the two elements which bring something old but fresh to the SQ are the arpeggiator and the effects. The original SQ did boast a multi-mode sequencer, but by replacing the data entry fader with an arpeggiator section, Arturia have brought an immediacy to its consumption. Seven Arpeggiator patterns are available over the space of four octaves, coupled with sync'ing and latch modes, so you can get lost in those digitised waves for hours. The addition of a very flexible effects section, on the backend of the signal chain, allows the selection of one of 16 different effects, in up to four instances. All of the usual suspects are here, along with notable appearances from the likes of the much applauded Juno Chorus. Pop that onto your pad, and soon you'll be finding yourself with another brand of facsimile, through the basic requirement of a few sawtooths up front.

Alternatively

Waldorf PPG Wave 3.V
cm162 » 9/10 » €156
Waldorf's homage to the original wavetable machine, the PPG Wave

Native Instruments FM8
cm109 » 9/10 » £129.00
Based on the DX7, the FM8 takes the Yamaha FM concept to greater heights, with similarly stylised sounds and timbres

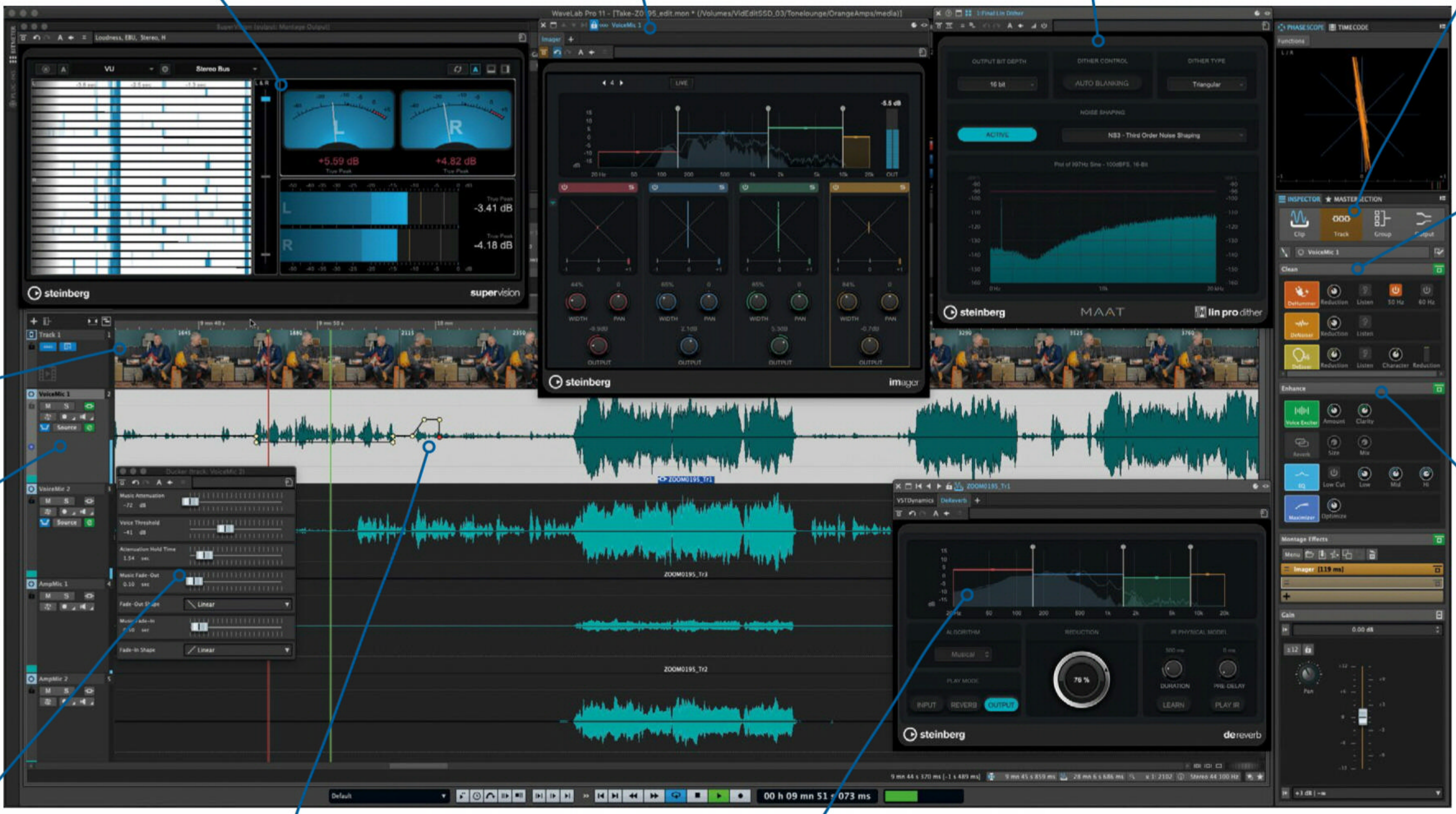
Verdict

For The visual SQ aspect is excellent
Sounds suitably stylised, with room for contemporary consumption
Extended modulation options, for movement and colour

Against An early digital sound-stamp
Modulation dials on the editor are small

As a gritty, early digital synth with attack and vigour, the SQ80 V is a stylised classic with some nice hidden depths

8/10



Steinberg PC MAC
WaveLab Pro 11 £430

If 11 is one louder than 10, then WaveLab 11 must be one better than WaveLab 10. But, actually, it turns out that's quite a lot better...

> Steinberg's first serious foray into the world of audio came with 1995's inaugural release of WaveLab. Largely the work of a single developer, Phillipe Goutier, what started life as a simple audio recording and editing package has evolved into a highly capable workstation geared towards sample editing, audio mastering and sound restoration. To this end, the program is packed with pro-grade processors, meters and features, all of which have received a significant boost with the release of WaveLab 11.

As previously, this new version comes in both a cut-down Elements edition and a fully-featured Pro edition, (reviewed here). Both editions feature a new podcast publishing assistant, and this is at the heart of a new super-affordable Cast edition, ideal for Podcasters/YouTubers.

Marvellous montages

The most significant changes in WaveLab Pro 11 are centred around montages. For those who don't know, a 'montage' in WaveLab is a multitrack timeline on which multiple audio files and clips can be arranged and processed. Plugins can be applied to individual files and clips at the track level, and at the montage output, allowing for detailed multi-stage processing chains to be created. There is now a new link in that processing chain in the form of Track Groups, essentially subgroups through which tracks within a montage can be routed, processed and mixed. Additionally, tracks now have two new built-in processing sections that precede their plugin processing stage: The Clean section provides a DeHummer, DeNoiser and DeEsser; the Enhance section provides a Voice Exciter, Reverb, 3-band EQ and a Maximizer. These processors are basic examples of their ilk, but they're quick'n'easy to use, and having them included on, and optimised for, all tracks is undoubtedly useful.

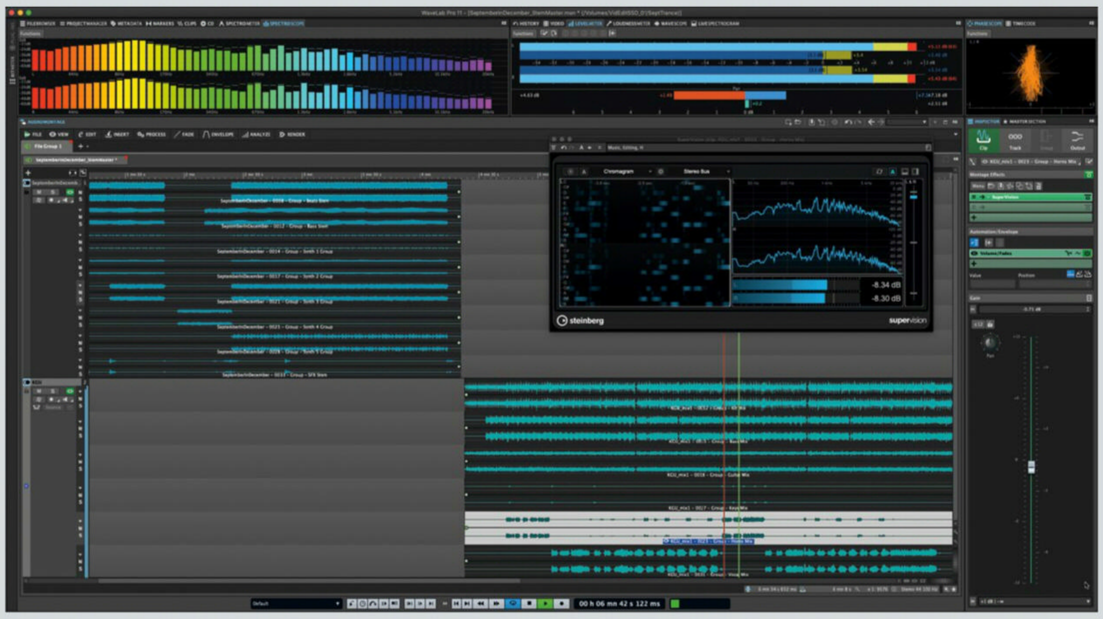
> "The most significant changes in WaveLab Pro 11 are centred around montages"

Tracks also now have a built-in ducking tool, used to reduce the level of a track in response to the audio on other tracks. The tool is similar to a compressor in operation, reducing a track's gain when the key level exceeds a threshold, but provides more detailed control than would a compressor. It's also quick and easy to configure – just enable it on the track, specify the ducking source, and tweak the controls as needed.

“Being the brainchild of a single developer has always imbued WaveLab with a certain quirkiness”

Clips have been enhanced too, with a shiny-new Clip Envelopes feature. These allow you to create automation curves to control a clip’s volume, pan and plugin parameters, and work in a familiar node-to-node style. On the downside, there is no way to directly control the curvature of the lines between envelope nodes. There is a smoothing option, but this averages-out the entire clip envelope. As a result you need to add many awkward-to-edit intermediary nodes to guide the smoothing process. Also, the actual values specified by the nodes may never actually be used, because the averaging often pulls the smoothed curve away from those nodes. A bezier curve system, as found in Cubase and Nuendo, would be far easier to work with. All of that said, we like that clip parameter automation is now possible, and look forward to it being improved in future updates.

Montages now fully utilise multi-core CPUs, leading to a very noticeable performance boost, particularly when moving between clips that have plugins applied to them. And to top things off, WaveLab can now directly replace the soundtrack in a video file without impacting the video encoding in any way. If embraced, this could bring huge efficiency savings to a typical video production workflow.



Track Lanes make light work of intrinsically fiddly stem mastering sessions

Stem mastering and multichannel files

Stem mastering is an inherently fiddly process, but WaveLab has always done a decent job of simplifying the procedure as much as possible, and the new Track Lanes feature makes things that bit easier still. Montage tracks can be split into up to eight individual lanes, each of which can host its own independent playlist of clips. Clips that reside on lanes can have clip plugins and envelopes applied to them, just like any other montage clip, and a new Auto Grouping option makes it easy to lock the lane clips together for editing.

In a similar vein, Steinberg have improved WaveLab’s handling of multichannel interleaved audio files, now supporting up to 22.2 surround channels, as well as the Ambisonics files used in VR. Once opened in WaveLab you can edit and work with the file in exactly the same way as you would a mono or stereo file, but you can also work on the individual channels and pass them to external editors if required.

Another great feature is that, when used in a montage, interleaved channels are automatically extracted into mono and stereo tracks. With WaveLab 11’s new montage bussing and processing options, this makes for a powerful yet quick way of working on surround and Ambisonics mixes.

Metering and processing

WaveLab has never been short of built-in metering tools, but Steinberg have nonetheless included their excellent SuperVision metering plugin, as found in both Cubase 11 and Nuendo 11. This allows you to create custom panels to meter your chosen combination of level, spectrum, stereo correlation, and more. Also, by dint of being a plugin, you can apply SuperVision at any point in the processing chain, which is especially useful in view of WaveLab’s new multichannel and stem mastering features.

A number of other plugins have been carried over from WaveLab’s v11 stablemates too, specifically Frequency 2, Squasher, Imager, Quadrafuzz v2, and MixConvert v6. These provide an excellent additional toolset to the existing Mastering and Restoration suites, which are still included with the software. In addition there’s the new DeReverb plugin which uses a reverb impulse to filter out unwanted room noise. The plugin is designed to be used on a live input, but as long as you create an impulse recording during a session it will be happy to work with pre-recorded audio too.

Last, but by no means least, is LIN Pro, a new state-of-the-art dithering plugin that replaces the decades old dithering techniques encapsulated in most dithering processors.

Being the brainchild of a single developer has always imbued WaveLab with a certain quirkiness, but those quirks tend to be charming rather than annoying, and are mitigated by a comprehensive popup help system. By definition WaveLab is of course a DAW, but it is a very different beast to the likes of Cubase, Logic, Live, et al. Where those DAWs are all about creating music, WaveLab’s speciality is working with audio as a medium – more artisan’s precision workshop than artist’s creative studio. As such, the program sits in a relatively niche area of the market, but it’s a niche that WaveLab knows very well indeed, making it a near-perfect match for the mastering, editing and restoration tasks that it’s designed for. **cm**

DeReverb, an all-new plugin that does just that

Web steinberg.net
Info updates from £85

Alternatively

Audacity
$Free
This cross-platform audio editor/multitrack recorder is remarkably good for a free program

iZotope RX8 Advanced
$1,199
Used widely in TV, film and broadcast, there’s little this post-production powerhouse can’t do

Verdict

For Track Groups provide new processing options
Track Lanes make stem mastering easier
Clip envelopes allow for plugin parameter automation

Against Clip envelope curves need bezier controls

Significant enhancements and new features make for a satisfying update to Steinberg’s venerable audio editing, mastering and restoration platform.

8/10

Mixing Night Audio GreenHAAS $49

PC MAC

We love it when producers and engineers get involved in plugin development, and this one could be one of the best yet

> Ken Lewis is a Grammy-nominated producer and mixer who has also developed numerous educational resources via his Audio School Online and, more recently, his Mixing Night live streams. GreenHAAS is a new plugin available via the Mixing Night Audio website that takes a number of Ken's favourite processes and bundles them into a fun and easy-to-use processor. However, it's fair to say GreenHAAS is not your typical artist-endorsed plugin. Indeed, Ken's name is nowhere to be seen. So, what does the plugin actually do?

GreenHAAS is a saturation and stereo enhancement plugin. The interface is divided into three sections with the saturation on the left and Haas delay and modulation on the right. Each section has an individual bypass and there's a global bypass as well. There are three saturation types coupled with high and low-cut EQs, input level and drive type.

Ken has selected three very distinctive and sonically pleasing saturations that include reasonably subtle (Infrared), harmonic heavy (Gamma) and somewhere in between (Ultraviolet). Labelling is suitably gamified too, with no parameter readouts, so the fact that input level is set using the Heat slider and drive type via the Sundial knob seems suitably fitting.

Whatever your thoughts on the interface, once you fire up a few sounds, you'll soon realise the plugin definitely means business. So whether you want to add presence to an 808, some edge to a DI'd electric bass or guitar, or simply liven up any dull-sounding instrument, there are plenty of options. Indeed, the more we dug into it, the more we began to appreciate the subtle differences between each of the saturation settings.

Feel the width

The Haas delay section features a timing control for each channel, dry/wet mix, high-cut EQ and delay feedback (Fertiliser). Meanwhile there's a choice of six delay modulation types. The timing settings are all different, so even if you select the same knob position for left and right you'll still get some widening.

With the most extreme settings you'll also get quite an obvious slap-back delay, and it's quite clear that the delay timings go beyond the limits for the Haas effect. Even so, to control the overall width of the effect you simply use the dry/wet mix. Of course, once you start to wind in the feedback, things take on a whole new character. Throw in one of the modulations and you can create all sorts of flanging and chorusing effects. In fact, it's quite easy for things to get quite lively.

Ultimately, GreenHAAS is a vibe plugin where you try the available knobs and buttons and, most importantly, use your ears to find a sound that suits. That said, GreenHAAS does have more than 50 presets, many of them created by Ken himself. So, whether you're using the preset Try On Bass Guitar to add subtle spice to a plain DI'd bass, or using Tape Cassette In The Sun for some extreme vintage character, the presets offer great insight into what it can do.

Needless to say, we love this plugin. It's fun, creative and offers a great diversion both visually and sonically from the more staid plugins that dominate most workflows. **cm**

Web mixingnightaudio.com

Haas

The Haas or precedence effect is a psychoacoustic phenomenon linked to the fact that human hearing cannot perceive very short delays between sounds (up to around 40ms). So if two sounds are played in quick succession they sound like one sound. What's more, the perceived location of the sound is dominated by whichever sound arrives at our ears first. By splitting a mono sound into two identical panned components and adjusting the delay time to one side we can actually change the perceived position of the sound in the stereo field or simply make the sound appear wider. This is a classic engineering trick that is harnessed in GreenHAAS to provide various types of width enhancement. Unsurprisingly, how the effect sounds is very sensitive to the delay times used, and with GreenHAAS some of the settings are longer and deliver audible slapback effects. Even so, each combination of left/right Timer setting yields its own groovy results.

Alternatively

Kilohearts Haas
€19
If you're after a simple Haas effect plugin, this one is great value

Softube Harmonics
cm266 » 9/10 » €149
Some excellent saturation and distortion effects with adjustable transient protection

Verdict

For Pleasing choice of saturation types
Brilliantly engaging gamified interface
Good value, creative fun
Easy-to-use Haas effect
Ken's own presets included

Against If you like to see parameters the interface could be annoying

GreenHAAS uses an unconventional interface to deliver classic effects and is easy and fun to use. Recommended

9/10

COMPUTER MUSIC PERFORMANCE Award

Wavesfactory Quantum

£129 PC MAC

Promising an algorithmic-led way of wrenching apart audio, Quantum sets out its stall to be the ultimate transient shaper. Can it really be?

> Over the last ten years, Spain's Wavesfactory has been fuelled by a quest to deliver ever more acute methods of creative audio manipulation. The innovative Trackspacer and Spectre use their intelligent algorithms to achieve spacious mix clean-up and laser-focused parametric EQ-ing respectively. Their latest plugin, Quantum, again harnesses the capabilities of artificial intelligence, this time in service of fluid transient shaping. This under-the-hood mecha-brain scans for impactful transients in your audio signal, surgically dividing attack and sustain parts into two distinct audio paths, which can then be individually treated via a gamut of on-board DSP effects, before being re-combined.

It might sound very iZotope-esque, but the finesse of Quantum's dial-able on-board algorithm – cleanly discerning the millisecond-level foundations of a transient – is like nothing we've seen before, particularly when you combine its palette of 16 effects.

There's clearly a huge array of applications with Quantum, from altering your drum's room sound without losing any attack, vocal smoothing, adding extra strength to your instrumental arsenal or colouring found sounds creatively and in more subtle ways than just layering on a typical effect plugin. At heart, the plugin does seem to be more marked as a beat-moulding tool, inviting the user to get stuck into live experimentation as your drums are played back, with latency and artefact-free fluidity.

The GUI is refreshingly straightforward, despite the complexity of the plugin. Instead of a mind-boggling array of dials and buttons, we are presented with our two main control knobs, which represent Attack and Sustain, either of which can be solo'd so you can hear exactly which parts of the drum sound (we're assuming you're modifying drums for now!) we're affecting. In the middle of the screen is a live graphical display of the audio's transients – with the attack signal represented in a tall orange peak and the sustain illustrated via a grey vertical line. The speed of this can be altered, as can the sensitivity of the transient-detection.

Under our Attack and Sustain sections is the effects area. A simple '+' button allows for the addition of one of the 16 on-board effects, which are each drag-and-droppable into a top-down signal chain. Here's where the central joy of Quantum lies; though the feast of presets are worth experimenting with, it's just as quick to throw in a handful of effects into each channel, dialling up/down the respective effect's parameters via the main effects editor.

It's just as quick a process to clean up or sharpen your loops or samples, with the Attack and Sustain volume level allowing you to pinpoint issues or weaknesses, and either eliminate or smother them in aural magic.

Perhaps the key utensil in Quantum's effects-tray is a 5-band/7-filter graphical EQ, where you can get super incisive on problem areas, with the mix pre-separated automatically by the plugin's central algorithm. While problem-solving is a big part of Quantum's appeal, it can also be applied to a master bus as a pre-mastering tool too.

Quantum really is something of a Swiss Army knife, cliché though that is. With its mix of high quality-effects, narrow levels of transient control and straightforward UI, it's yet another inventive addition to the Wavesfactory roster. **cm**

Web wavesfactory.com

Sound and colour

The surplus of high-quality effects which are applicable to either the attack or sustain of any audio signal is vast.

Any combo of the following can be tried within the dual signal chains: Chorus, Compressor, Convolution, Delay, Enhancer, EQ, Flanger, Limiter, Lo-Fi, Phaser, Pitch Shifter, Reverb, Saturation, Stereo Tools, Tremolo and Vibrato. Of particular note is the shimmering Chorus and the hugely satisfying Delay, which features a surprisingly robust set of tools to carve out your time, feedback, pong and low/high cutting.

Saturation features a slew of approaches including Symmetric and Hard Clipper types, while Stereo Tools allows for careful mid/side processing. It's really a matter of how these effects work in parallel – and on which elements of the transient – that will bring out the most amazing results.

Alternatively

Eventide Physion
£130
Uses a different method to strip a transient's sections. Onboard Eventide effects offer similarly lively methods of shaping sounds

iZotope Neutron 3
cm275 » 9/10 » £343
The ultimate all-in-one transient shaper and mix assistant

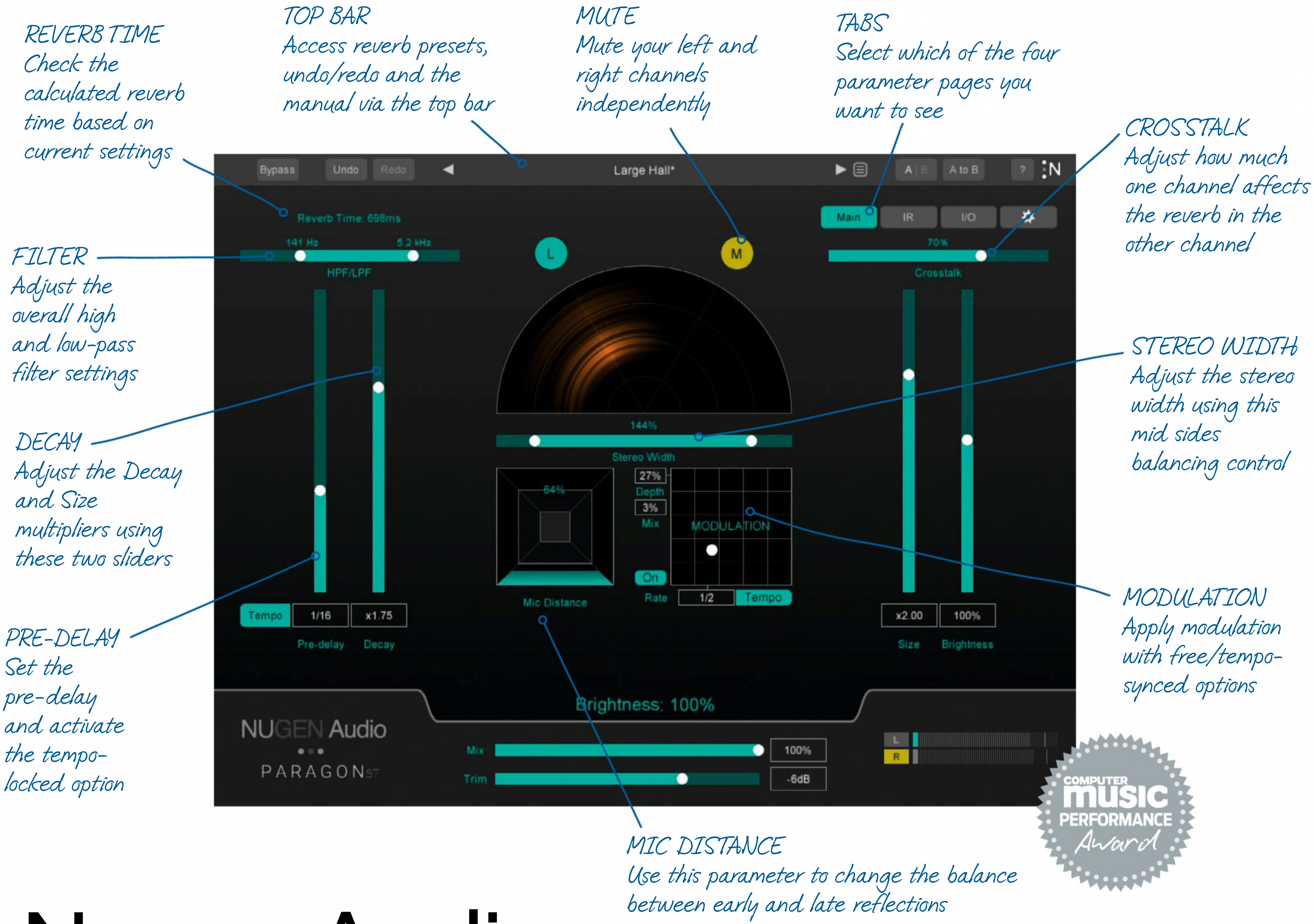
Verdict

For Includes effortlessly clever transient separation
High quality DSP effects can be applied to either attack or sustain
Refreshingly concise and clear interface

Against Nothing negative to note

Wavefactory have delivered perhaps their finest plugin yet. Don't be deceived by the simple interface – Quantum offers up an uncharted, tone-sculpting ocean

9/10



COMPUTER MUSIC PERFORMANCE Award

Nugen Audio Paragon ST £209

PC MAC

Imagine if you could combine the flexibility of an algorithmic reverb with the authenticity of convolution? Imagine no more with Paragon ST…

> The reverbs we use are usually built using either mathematical models (algorithmic) or from impulse responses of real spaces (convolution). Paragon ST (AAX, VST3, AU and AudioSuite) is a stereo-only version of Nugen Audio's 3D convolution reverb and is now available in its own right. If you're not familiar with Paragon, it couples a premium convolution engine with the editing flexibility of an algorithmic reverb. However, with typical editable parameters such as decay, size and brightness achieved using re-synthesis rather than time-stretching, it's not susceptible to artefacts. What's more, with so much onboard flexibility, Paragon ST has a much smaller IR library, which is more efficient and saves you disk space.

Core concepts

Paragon ST has a pretty standard layout with preset management at the top, parameter editing and visualisation in the middle, and output Mix, Trim and metering at the bottom. The centre section includes two main tabbed windows (Main and IR) with a couple of further tabs handling settings (including the colour scheme) and I/O. It's worth mentioning that the I/O options are extensive and this is inevitably down to Paragon's multichannel heritage. Either way, if you need to edit channel-specific pre-delay, high/low-cut filtering, decay time or even crosstalk over and above the main parameters, this is where you can do it.

Over on the Main tab, you'll find typical reverb parameters including Decay, Pre-delay, Size, Brightness and channel Crosstalk. Meanwhile further parameters, and recent additions to Paragon include Modulation with tempo sync, tempo-locked Pre-delay, and Mic Distance. This last option adjusts the balance between early and late reflections so you can influence perceived distance without adjusting the decay time. Finally, Stereo Width, which is a Paragon ST-only feature, provides mid/side-style stereo adjustment.

> "With a choice of 80 presets based on 19 IRs (Reverb Models), Paragon ST covers a lot of sonic ground"

In deep

Once you start to dig in, it quickly becomes apparent that the main page parameters provide lots of flexibility, and with a choice of 80

> “We quickly conjured up great special effects by lengthening and enhancing aspects of the sonic spectrum”

presets based on 19 IRs (Reverb Models), Paragon ST covers a lot of sonic ground.

However, if you head over to the IR tab you’ll find not only a lovely Spectrogram representation of the IR, but also, under the Modifier tab, a frequency graph display. And it’s here via the Amplitude and Decay options that things get truly flexible. On each display you can add up to five nodes with peaking and shelving options. On the Amplitude tab you can EQ the Reverb Model; meanwhile on the Decay tab you’re actually adjusting the decay multiplier on a frequency specific basis. This is wonderfully powerful and although you won’t find any extreme demonstrations of this in the presets, we quickly conjured up some great special effects by lengthening and enhancing specific aspects of the sonic spectrum.

To assist editing, Paragon ST’s Reverb Models include a number of musical and foley preview sounds with both looped and one-shot playback. On the Spectrogram page you can also audition the raw impulse including its original impulse sound. Altogether this makes the process of editing incredibly simple and offers great complementary features to the main page parameters.

Super Sound

One of the big selling points for the original version of Paragon is its multichannel capabilities, but with Paragon ST the emphasis shifts to stereo. For us, convolution reverb is about capturing either authentic real spaces, or capturing existing classic hardware. Clearly, the latter aspect is not part of Paragon ST’s offering, and there are no hardware-derived reverb models included. With regard to the former, Paragon ST delivers a surprisingly broad range of effects. There are some excellent larger spaces, and we particularly liked the presets derived from the Hall, Chamber and Stone Chamber models. Nevertheless, to our surprise it’s actually the smaller spaces that caught our ear, and there are some awesome smaller effects that are great for adding width around sounds. Presets such as Add Warmth and Room Ambience achieve wonderful natural space. Meanwhile, a number of outside-derived models (Street Alleyway and Garden, for example) brighten and enhance. All these presets and a number of others are great for adding those ‘barely there’ effects that we’re often looking for. Paragon ST also has some great modulation options, but these have yet to be fully exploited in the preset library. That said, the few presets that do use the modulation (Worm Hole and Retro Vocal Slap for example), demonstrate how good this aspect can sound.

All told, Paragon ST is a pretty impressive reverb that has forced us to re-evaluate how we view convolution and its capabilities. That said, because impulse responses need to be specially prepared so they can be re-synthesised, it also lacks the flexibility to directly import any raw impulse. At £209, it’s half the price of its multichannel sibling, and while that’s obviously not cheap, in comparison to other quality stereo reverb plugins, we think this offers very good value. What’s more, Nugen are committed to further developing its offering, so additional Reverb Models could easily be added in at a later date. **cm**

Select the Modifier tab to EQ and make frequency-specific decay adjustments to the Reverb Model

Web nugenaudio.com

Head to the IR page to see a spectrogram of your currently loaded Reverb Model

Models and presets

Paragon’s flexible architecture reduces the need for a large impulse response library and to that end it comes with 19 individual impulse responses (Reverb Models). This may seem a bit limited, but the models cover plenty of ground. Types include traditional spaces such as Church, Theatre and Chamber, as well as more unusual spaces such as Cave Mouth, Stairwell and Summer Forest. You can change the Reverb Model in the IR page and when you do this, all other settings for the preset remain the same, which is handy.

Having said that, the Reverb Time readout on the Main tab will update to reflect the newly loaded Reverb Model. One thing you can’t do is import your own impulses, which although understandable given the re-synthesis system used, is also a little on the disappointing side.

Paragon ST has around 80 presets. Many of these quite clearly indicate via their preset names the source Reverb Model. So, you’ll find various sizes of church, hall and chamber for example. But there are plenty of other presets that are less obvious. And the beauty of Paragon ST is that presets can be created from Reverb Models that may seem unsuitable – Tight Drum Ambience, for example, uses the Large Theatre model.

Alternatively

HOFA IQ Series Reverb 2
cm197 » 8/10 » €249
Loads of powerful features and a 1500 impulse library make this an excellent choice

LiquidSonics Reverberate
cm227 » 9/10 » $99
Manipulate the early/late reverb components of this reverb using the Fusion-IR technology.

Verdict

For Sounds excellent
Broad selection of core reverb models
Impressive editing flexibility
Handy mid/sides style width adjustment
Flexible channel specific adjustments

Against Can’t import your own impulse responses

Typical convolution reverbs sound great but have limitations; Paragon ST uses clever maths to address them. Brilliant stuff

9/10

cm mini reviews

A rapid-fire round-up of hardware, samples, and much more

Focusrite
Clarett+ 2Pre
£440

Web focusrite.com
Gear 10-in/4out USB interface

Chip shortages seem to be the order of the day these days – they have even hit the car industry in the news of late, and the music technology world is not immune. Focusrite's chip shortage came by way of a fire at the factory that supplied them, so the company have decided to re-engineer their Clarett interfaces and added a '+' to let the world know.

While the basics are the same, specs have improved, so these already premium-quality Mac and PC USB audio interfaces have stepped up a gear. This mainly comes by way of new converters which deliver a greater dynamic range and lower the noise floor, and means that you should be able to capture more detail and hear an impressive depth on the output. The range that launched back in 2015 (on Thunderbolt and then USB in 2018) was already overflowing with stats and quality, so really, we're talking about fine improvements.

In practice the Clarett+ 2Pre on test performs admirably; that low noise floor really does capture as much detail as we require and lower distortion figures help tame everything. That all said, we'll have to believe the stats as we can't compare the '+' with the original Clarett (which we were impressed with anyway), so don't go throwing out your original to upgrade!

We are especially impressed with vocal and guitar recordings thanks to Focusrite's famous Air feature which replicates the sound of the famous ISA preamps, and lifts a range of high frequencies. Yes, that sounds like an EQ but there's something Air does to the presence of these sounds which subtly lifts them in a mix without overpowering everything; great to have as an option but perhaps it's not one to overuse.

Otherwise Clarett+ 2Pre comes packed with everything else you might expect: two combi mic/line-ins with preamps, four outs, MIDI and ADAT (to increases connectivity to 10-in/4 out). There's a good bundle of software – including Control which allows you to configure everything – and iOS connectivity via USB-C. A great interface, if on the pricey side.

9/10

Nektar
SE25 £39

Web nektartech.com
Gear USB mini MIDI keyboard

Nektar's SE25 just about manages to wrap enough controls around its 25 mini keys to be one of the smallest and most flexible MIDI keyboards on the market, and sells for almost silly money. It's light in weight, comes with a USB cable for power and is bundled with Bitwig's 8-Track software, a very decent DAW as proven by you when we gave it away a few issues back and got a fabulous response!

Connections and controls are at a minimum, but two of the buttons are assignable to several key controls, and it's easy to implement. The S button acts either as Sustain or Modulation, using keys on the keyboard to select which. The 2 button is assignable, again by way of keys on the 'board, but opens up more performance or MIDI options. You will have to dig a little deep in the manual to learn how to program in depth, but hats off to Nektar for doing everything so well in such a small device.

SE25 packs a lot more punch than its size promises, slots in nicely in front of your laptop and gives you an unprecedented level of control at this price point and level of portability. A great mobile controller, simple as that.

9/10

AIAIAI
TMA-2 Studio & Studio XE £200 & £160

Web aiaiai.audio
Gear Closed back modular headphones

Danish manufacturer AIAIAI's TMA-2 concept allows you to build your own headphones from modular parts. You get four types of speaker unit (one wireless), five types of over- or on-ear pads, four headbands and more to make up your custom purchases. To make it easier, there are also pre-made versions, of which the Studio and Studio XE are specifically tailored for music production.

Despite being modular – so you can still upgrade them – these both feel well built. The more expensive Studio phones feature more comfortable earpads but are slightly heavier; the XE's might be better for longer listening sessions. Both are closed back so good for isolation and mixing.

However it's the sound that will define your phones and for that you need accuracy, as you do with studio monitors. Here you pay that bit more for it as we think the more expensive Studios deliver better results, with the XEs having an enhanced low end which will be better for listening and enjoying rather than mixing. Decent, then, and we love the modular concept.

8/10

Soundware round-up

Zenhiser
Flight – 80's Electronica £34

Pop your tray tables up and fasten your seatbelts, as we soar through the skies without a care in the world, back when air travel was glamorous – the 80s. Your giant phone doesn't work up here, but the market is booming, and the drinks never ending.

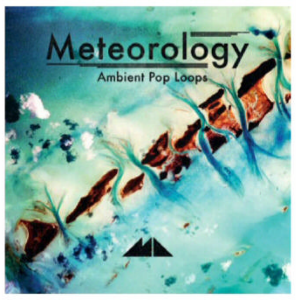
Your in-flight audio perfectly soundtracks this boom time of big hair and bigger shoulder pads. There's emotive loops, power pads galore, and enough tight electronic drum hits to keep the party going until the next decade.

Along for the ride are a monster stack of one-shots and vocals, which also glide effortlessly over the smooth grooves and melodies in this nostalgic 1.7GB collection. Exits: here, here, and here.

zenhiser.com

9/10

Mode Audio
Meteorology £18



Deep and dense electronica, tinged with spacey moods and cutting edge drums. The 340 beats and pieces in this pack are glitchy in parts and drenched to the core. From the very off, this is one to get swept away on.

FX bubble, and synth sounds warp and wobble, bouncing around your headspace. It's the land of the woozy and wonky, and a fair shout from Kansas, Dorothy. But, we dig it.

And if you like your floaty pop sounds with a huge dose of blissed out ill-bient, then you will too.

modeaudio.com

8/10

Mode Audio
Electric Boogie £18

490MB collection of retro dance loops, full of flashes of forgotten freestyle flavours, and more than a touch of that crucial 80s electro vibe – think the Fun House club in New York on a Friday, and "Jellybean" Benitez is trying to lure an unknown Madonna onto the floor, where she'll stay all night.

And why not? The funky synth riffs and drum machine programming here are strictly on that good time rhythm. And woven out of Linn looms, and other iconic machines you'd have killed for, back-in-the-day.

modeaudio.com

8/10

undrgrndsounds
Neon Funk £29.95

Sometimes the funk is purple, when flowing out of Prince. Other times, a psychedelic swirl, when George Clinton is cooking it up. Here we are in the spectrum of the bright neon, which means all of the above. Plus, low slung LA beats, G-fonk, and retro boogie house shimmers, mixed with forward-leaning R&B, with extra R, just to dial the brightness up.

Elsewhere, vintage synths squelch and squanch, as the upright bass and subby kicks loosen proceedings. Then everyone dons shades, and heads to the pool…

undrgrndsounds.com

7/10

undrgrndsounds
Broken Techno £29.95

The 284 loops and 31 MIDI files in this little lot take in far more influences than your normal techno sample set plus all manner of historic sub (and subby) genres pilfered for their core rave-igniting elements.

From rolling early hardcore breakbeats, building euphoric acidy tones, snappy old school UKG claps and hats, through to synth noises from every era from the Hoover, onwards. If this is what being broken is, then why fix it?

Dig deep, and flesh out your tracks with some old skool dance DNA.

undrgrndsounds.com

8/10

Soundware round-up

W. A. Production
What About: Future Rave Avalanche $6.00

And the winner of 'Best Named Sample Pack' this month goes to... Killer content tumbling out of this one, too. Mainly the powerhouse presets for Spire, Serum and Sylenth. But, also watch out for the building-flattening drum hits and percussion.

The 91 melody loops and MIDI files buried in here make for perfect trance riffs and heavy electro leads. And, once you get a handle on 'em, you should have enough seismic EDM pressure to dislodge even the most stubborn of snow drifts.

waproduction.com

7/10

Sample Market
Silat Beksi – Drums £15

Pumping library of expertly programmed techno and house drums. Expect full loops, kick-free grooves, and solo hi-hat, clap, and snare layers.

Tonally, some of these 124-127bpm beats come clean and crisp, and others have been laced with glitchy fragments, adding plenty of extra character.

All in, it makes for a great port-of-call if you wanna quickly ramp up some ongoing melody ideas with a solid backbone, allowing you to focus on the lead lines rather than obsess over snare processing (unless that's your thing, you sadist).

samplemarket.co.uk

8/10

SoundGhost
Tape Reels: Modular Arps £10

Sublime synth sequences, perfect for peppering your productions with. The 75 rolling and rising riffs inside this new series veer merrily into abstract territories, and can delicately twist and torment the tone of any tracks you bless them with.

Arpeggiated patterns run happily, as granular grooves reveal themselves, building through wild and wonderful song-starting rhythm patterns.

And, as every last loop makes its journey through some vintage tape machine processing, warmth and happy artefacts are added to the mix as standard.

soundghost.net

7/10

Bingoshakerz
Techno Underground $19.95

Gritty and grimy track-boosting bits from the mind and studio wizardry of techno producer, Karim Alkhayat. As with his Beatport-bothering bangers on labels like Codex and Reload, the Syrian-born beatmaker keeps this 1GB collection of loops dark, daring, and dancefloor-detonating.

Not for the faint of heart, each pounding drum line, moody pad sound, and rampant analogue bassline comes out swinging.

bingoshakerz.com

8/10

Loopmasters
Horns In Motion £29.95

Widescreen brass loops from the lips and mind of the Submotion Orchestra's Simon Beddoe. When he's not fusing dubstep and jazz with his band, the classically trained arranger and horn don is serving up hits, chords, stabs, swells, toots, and pads like this.

Across 1GB of content, he delivers solo and ensemble parts across flugel horn, trumpet, trombone, and more. Perfect in-the-pocket playing, suitable for street beats and cinematic grooves, alike. Also included are patches for Kontakt, Sampler/EXS24, NNXT and SFZ.

loopmasters.com

8/10

Singomakers
French Funky Disco £29.95

Ooh, and further more, la la. Francophile funk licks a-go-go in this extra grande grab bag of goodies. Amongst the whopping 2.4GB of material, you get a ton of cool contractions, kits, live playing taken from custom and vintage gear, and enough freaky guitars, slap bass solos, killer keys, and dope drums to turn any mutha out.

Inspired by James Brown, Prince, MJ, Chic, Daft Punk and even Maroon 5, this [Gauloise-] smoking hot set of sexy song-starters will keep you and yours in samples for the foreseeable. Merci.

loopmasters.com

9/10

Loopmasters
Dub & Ting £29.95

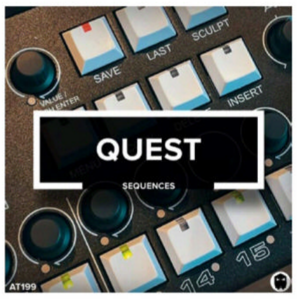
Outernational music producer, Dubsalon, is back up in here with a booming bevvy of dubbed out goodness. From the dawn of dub, to the bubbling state we find it in today, he checks off the list of everything you'll need to try your own hand at this bass-heavy musical style(e).

Finding space across 70-150bpm beats he throws hits, vocals, organs, guitars, and drum and key loops at you, each one fitting like a glove to the other, and forming sensational little moments as they do. Roots and culture business.

loopmasters.com

8/10

Audiotent
Quest Standard: £17 Deluxe: £27



107 mind-bending sequences for techno freaks and freakettes to geek out on. These leading line blips and beeps come in all manner of twisted tones and timbres, but each raw riff has been coaxed out of some big real-world machines and analogue boxes with one simple aim – to burrow deep into your ears and soul like some kind of demented melody worm.

For added flexibility upgrade to the Deluxe Edition, and you'll get 107 matching MIDI files to run past the noses of any instruments currently flipping your wig back.

audiotent.com

8/10

cm / downloads

Get this month's content from **filesilo.co.uk**

cm / free plugin

82 BABY AUDIO'S I HEART NY COMPRESSOR! We love Baby Audio and with this free plugin you'll see and hear why!

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88 A HUGE BATCH OF 303 SAMPLES, OLD & NEW We're not constrained by the DVD anymore so here's more! All for free!

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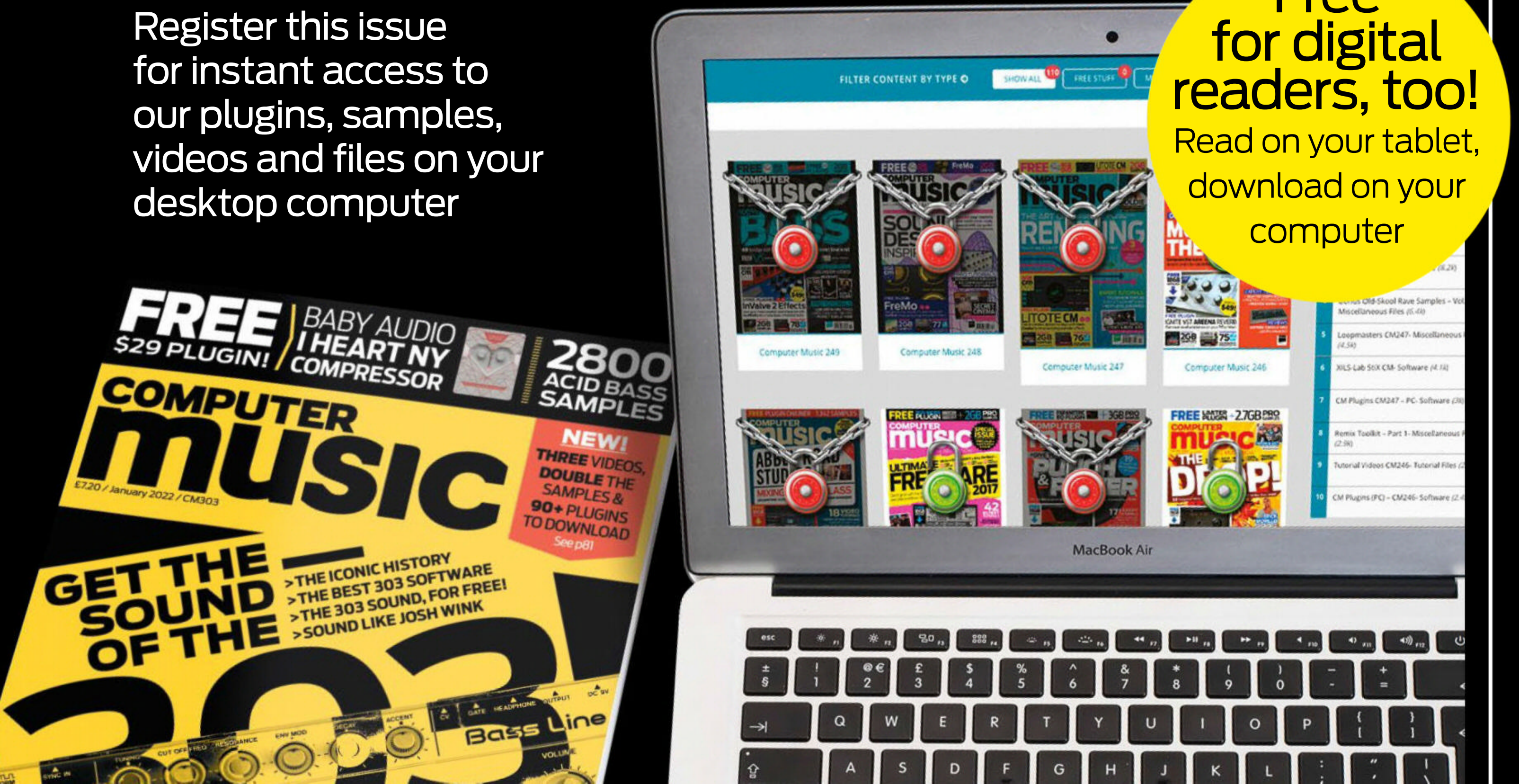
93 A 303 SPECTACULAR + OUR MASTERCLASSES How to create iconic 303 sounds and use Zebra CM to *go acid*!

cm / plugin suite

DL THE CM PLUGIN SUITE An in-depth guide to all of the plugins in our mighty collection can be found as a PDF at filesilo.co.uk

Log in at **filesilo.co.uk/computermusic**

Register this issue for instant access to our plugins, samples, videos and files on your desktop computer



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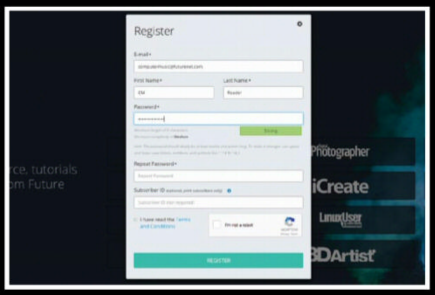
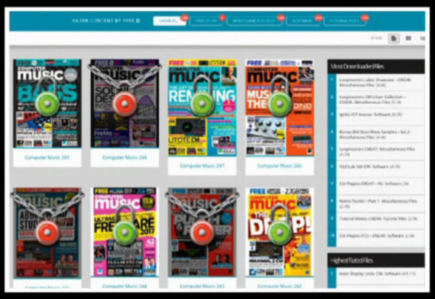
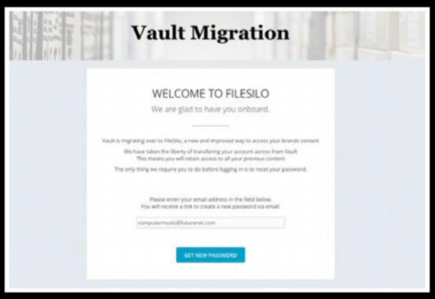


01 Register your FileSilo account and log in. Even if you have a subscriber ID, you'll still have to unlock each mag separately or migrate your old Vault account (see step 3)



02 Head back to the *Computer Music* page (**filesilo.co.uk/computermusic**) and choose an issue to unlock. You'll need to answer one question to prove you've purchased the issue



03 You can migrate your old Vault account over to FileSilo to retain the issues you've added – head to **filesilo.co.uk/vault** and enter your Vault email address. Reset your password via the email you receive, and log in

> Free software **PC** **MAC**

I HEART NY

Plugin wonders Baby Audio are giving you their very cool I Heart NY for free! It's full of bite… if you spank it!

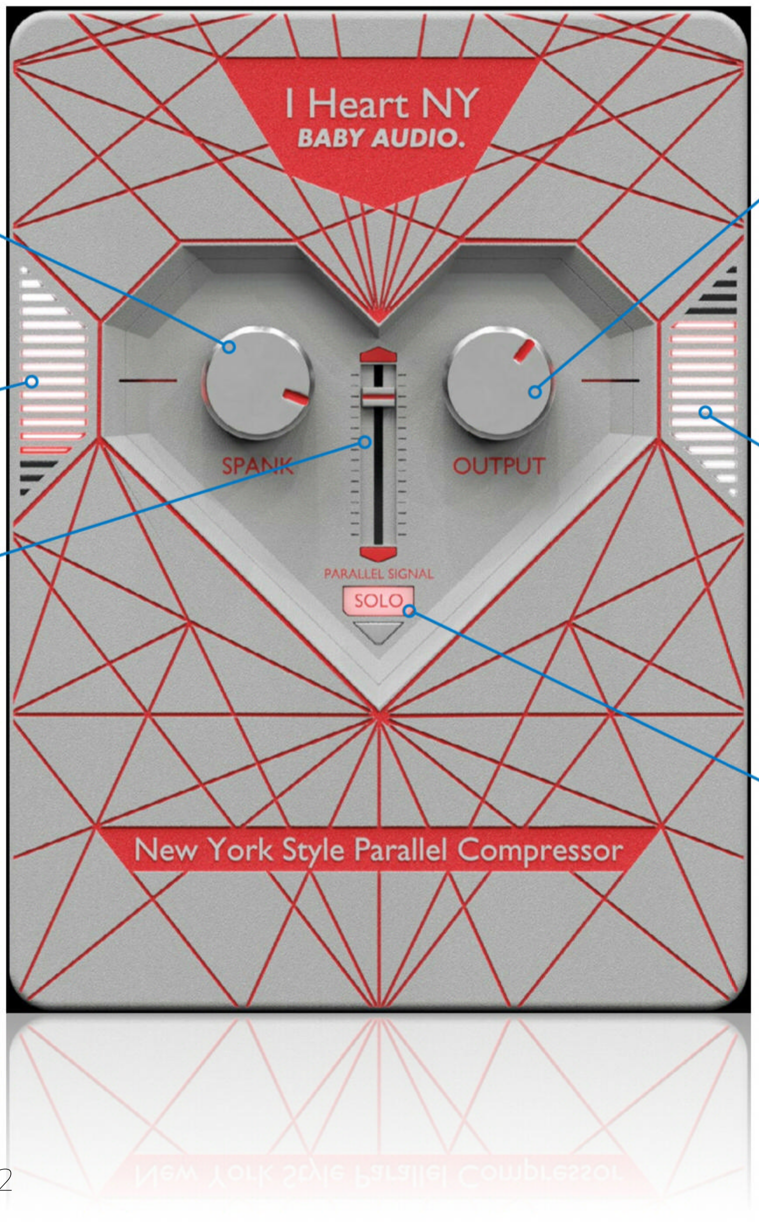
DOWNLOAD
Get this great plugin for your PC/Mac at **filesilo.co.uk/computermusic**

> It feels like Baby Audio have come from nowhere to lead the field in plugin development. They have titles such as the incredible (10/10 scoring) Spaced Out reverbs (that reimagines the Space Echo), Parallel Aggressor (the definitive punch tool) and the all-new Taip which was announced last month. For this giveaway, we have the mighty I Heart NY parallel compressor which is simple but highly effective, recreating as it does the sound of New York compression with a very simple workflow.

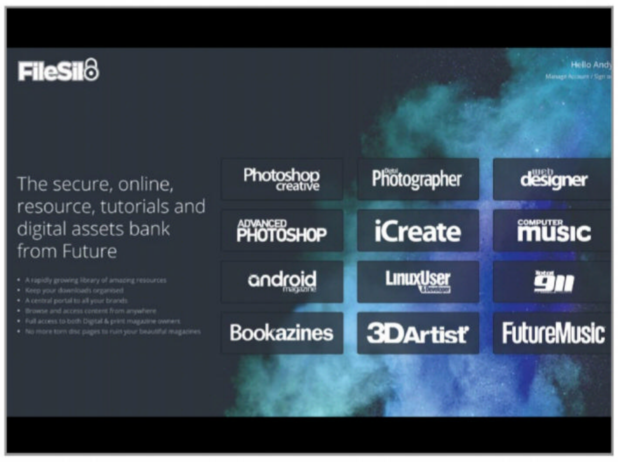
New York or parallel compression was made famous in that city in the 1990s and basically allows you to duplicate your audio to another bus, and as Baby Audio say, "crush it to death with expensive hardware, then blend it in with your dry track for a sound that is both powerful and dynamic". We literally couldn't have put that any better ourselves.

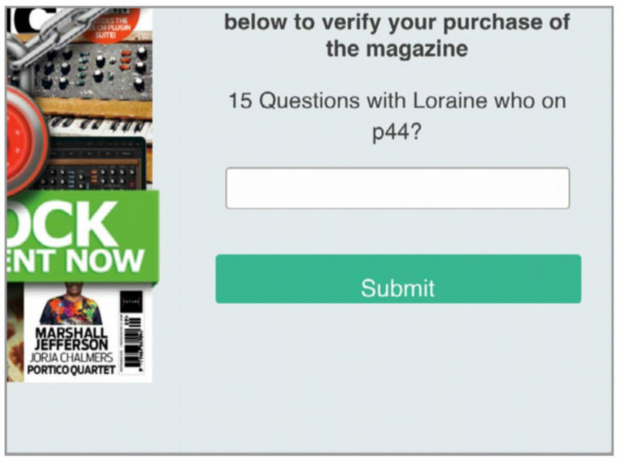
I Heart NY features all of the compression gubbins and parallel signal splitting within the plugin itself, making both signal and workflow very easy to get your head around. It might be a simple interface, but push that Spank knob up and you will soon be adding bite to your drums and bass especially, although most music tracks will benefit from a twist of the knob. You can even put the compressor in solo mode to use as a normal insert compressor.

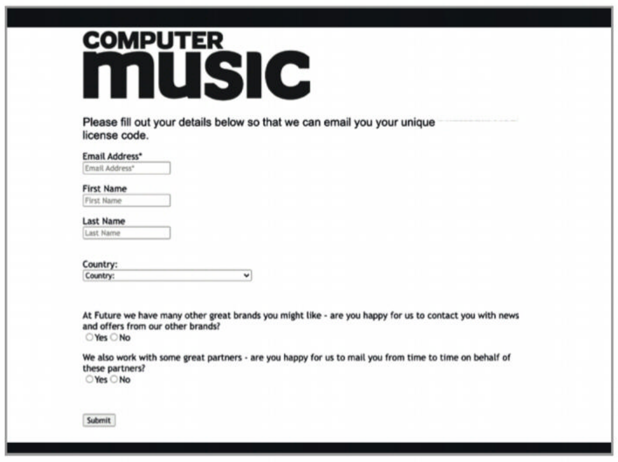
We'll show you how to make the most of I Heart NY over the next five pages and there's an interview with Baby Audio's Caspar Bock on page 86. Check out further instructions in the download and more info on Baby Audio's range at **babyaud.io/all-plugins** and on p85.



> Step by step 1. Getting your free Baby Audio I Heart NY





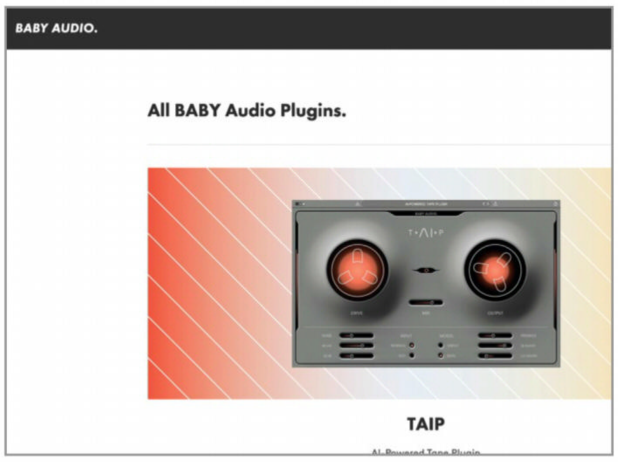


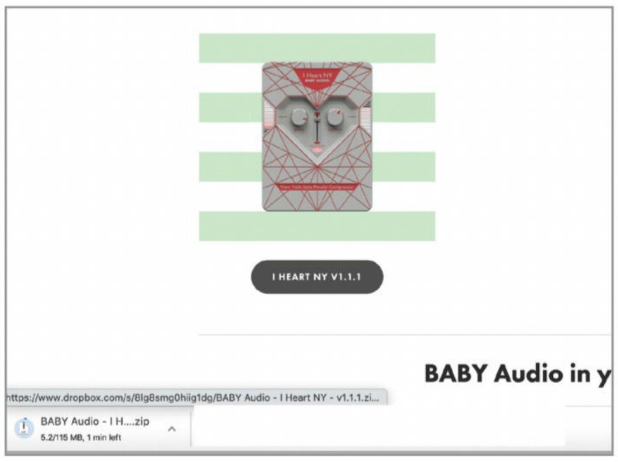
1 > The instructions to claim I Heart NY are available to download from Filesilo. Head to www.filesilo.co.uk/computermusic and either log in or create a new account as required. Click on the *Computer Music* folder and locate this issue (January 2022, issue 303).

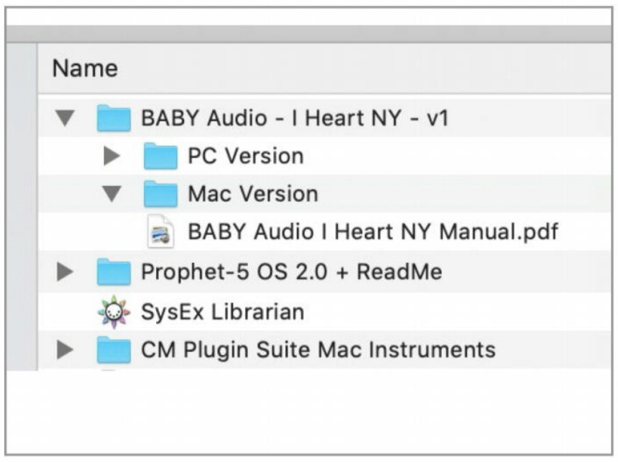
2 > Unlock the content for this issue by answering the question related to the issue. Scroll to the Software section. We have the instructions in a simple word document there.

3 > Click on the first link in the instructions. This will take you to a form where you will be asked to enter your email address to get a unique access code which will then be emailed to you.

> Step by step 2. Installing Baby Audio I Heart NY



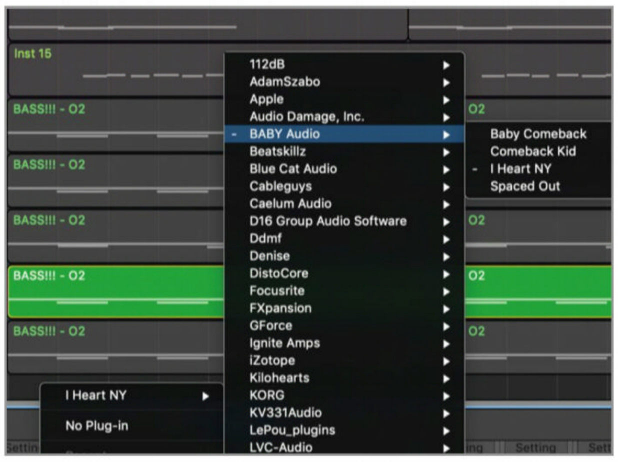


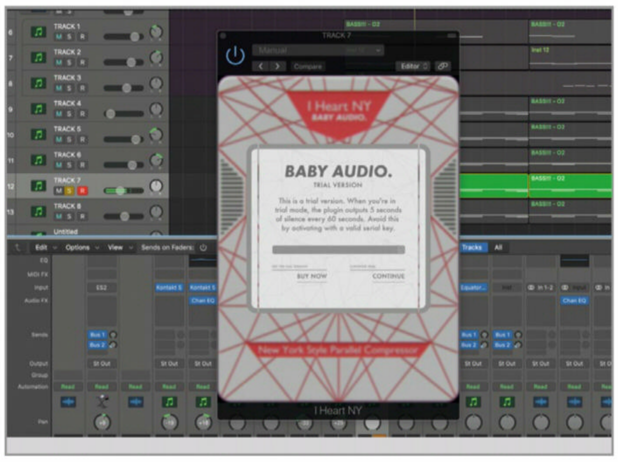


4 > Head on over to the gorgeously clean Baby Audio website by navigating to the specially set up page at **https://babyaud.io/cm-users**. You will also need to register/enter your email address.

5 > You can trial any Baby Audio plugin here. They will all run in Trial-Mode until activated with a purchased license key. Scroll down to I Heart NY in the downloads section and click on it to download the plugin.

6 > Both the PC and Mac versions of I Heart NY will be downloaded (in an approximately 130MB download). Double click to install your choice/platform.





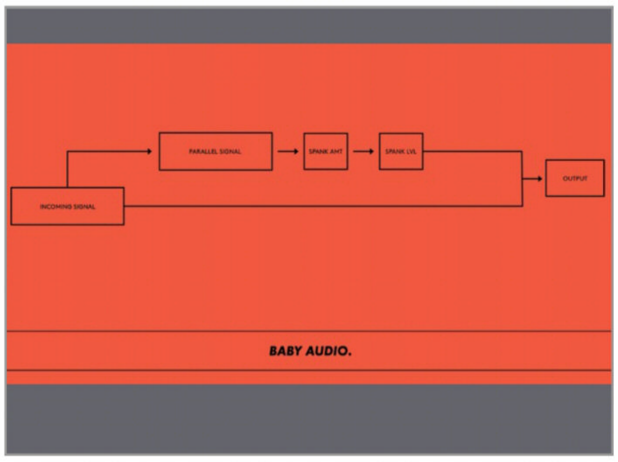
7 > When you open your DAW, I Heart NY should be picked up and installed as usual. Load the plugin by navigating to the Baby Audio folder (as shown in Logic).

8 > When you open I Heart NY for the first time it will still be in Trial Mode Now simply paste in your unique serial code, as emailed to you in step 3 above.

9 > Your I Heart NY compressor should now work without any restrictions. Turn over for more instructions on how to use it!

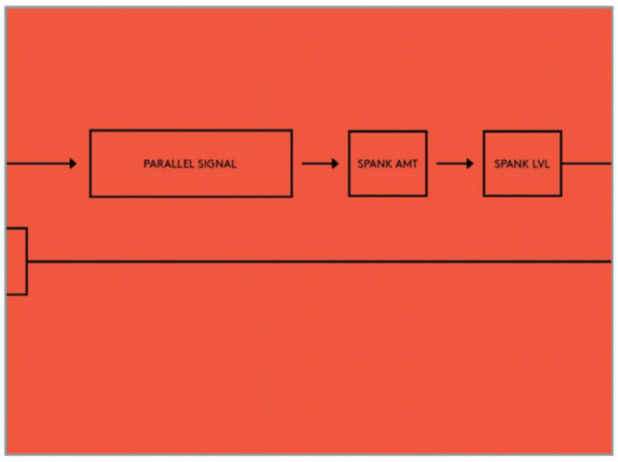
> Step by step

3. A tour around Baby Audio's I Heart NY

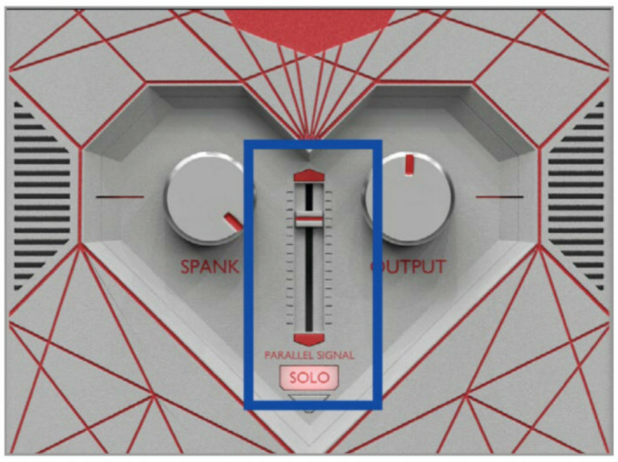


1 > In order to fully appreciate how I Heart NY works, we first need to have a quick look at the signal flow from the instructions PDF. The incoming audio is duplicated and you have the untreated signal at the bottom and the compressed audio split at the top.

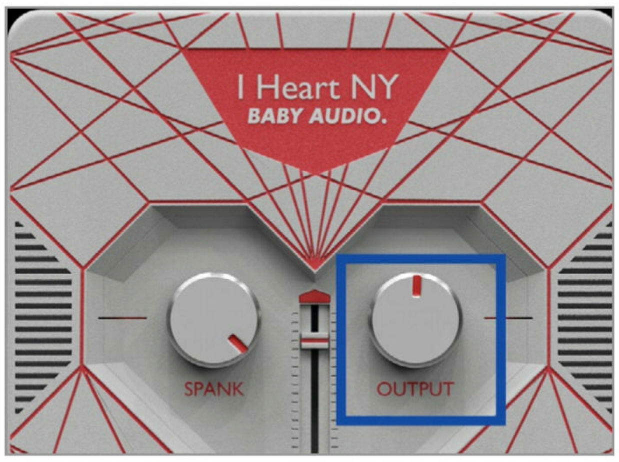
2 > The Spank knob is where the action is and simply dialling this up introduces what Baby Audio describe as "high-ratio compression, a bit of EQ and an adaptive low-end preservation filter for extra fullness". Try it out on any audio to hear what they mean.



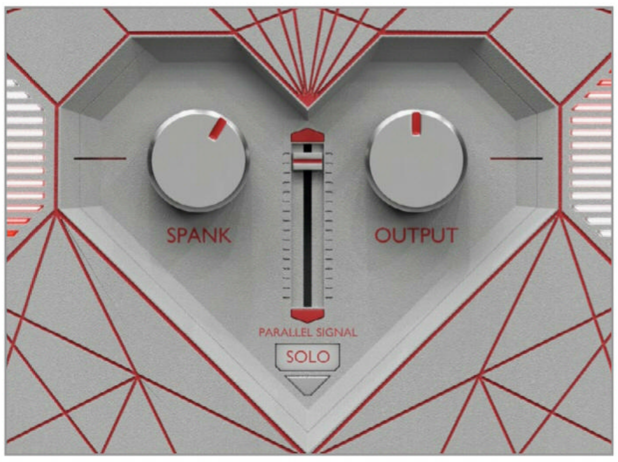
3 > Back to the signal flow and you'll note that after Spank you get Spank Lvl or volume. This is not a wet/dry signal control but the volume level of the Spank signal.



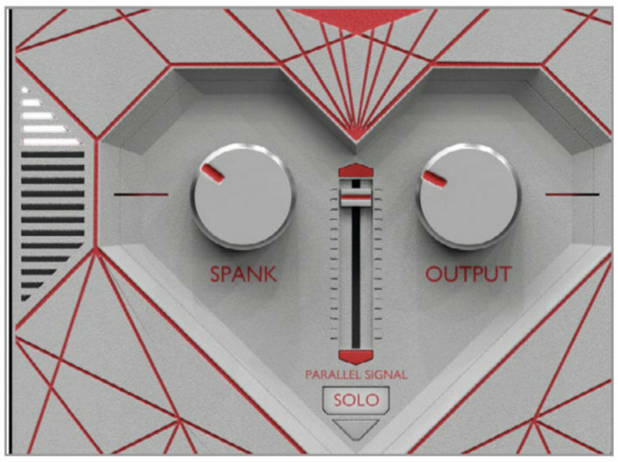
4 > On the UI this Spank Lvl is controlled with the central slider so this is effectively controlling the volume of the parallel processed signal.



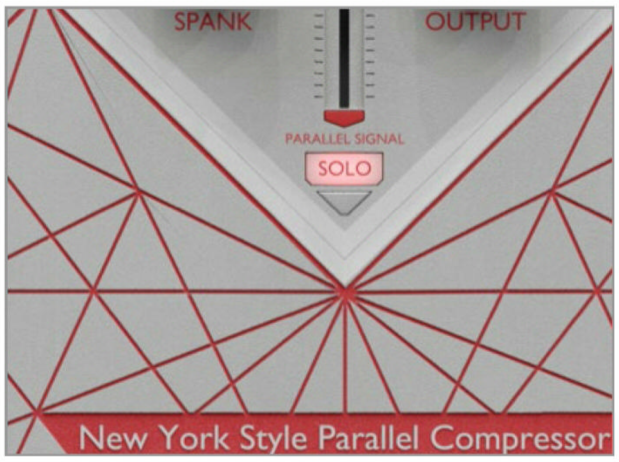
5 > The dry signal (at the bottom of the signal flow) is then summed back together with the processed and the combined level of these is controlled with the output dial. Easy!



6 > Try applying I Heart NY to some drums and use the Spank dial to introduce more parallel compression and then the middle slider to set the Parallel Signal level. You'll notice the drum sounds have more bite as the compression increases.

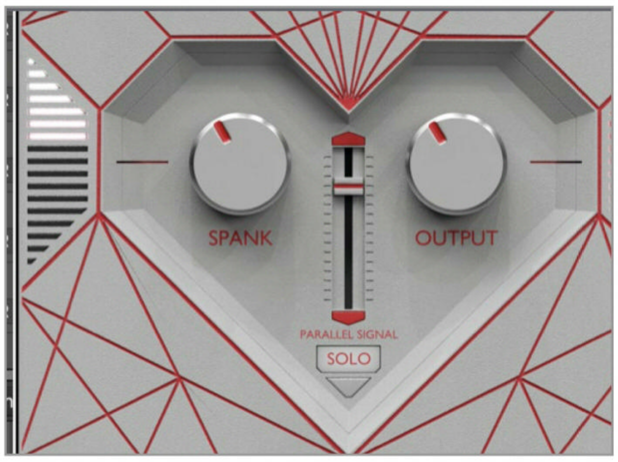


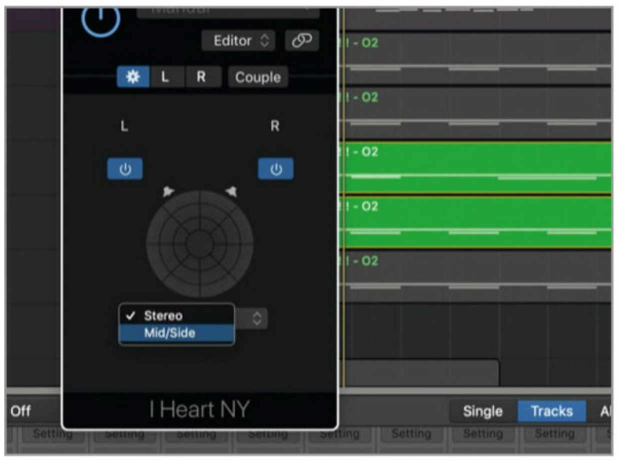
7 > Decreasing Spank makes the drums a little less in your face and more 'thuddy'. You can see the two levels of parallel compression and output indicated by way of the meters left and right.



8 > The Solo option mutes the dry signal so you are only getting the processed compression signal. It's more of a straight compression mode: good for individual drum sounds – for kicks especially – and bass notes.

9 > For bass sounds, we found we didn't have to dial up the Spank so much when in Solo Mode before you get a very nice tightening of the sound that really lifts the bass in a muddy mix.





10 > On acoustic guitar you can be quite subtle, just dialling in a lower Spank level to lift the transients again.

11 > You can, of course, use I Heart NY on complete mixes but use that Smack dial with care as it's not applicable to every musical part and vocals don't necessarily benefit from it.

12 > Finally, other controls allow you to save any great settings you come up with as presets and even apply Mid-Side processing which allows you to experiment with more spacious mixing.

A quick tour around some other Baby Audio plugins

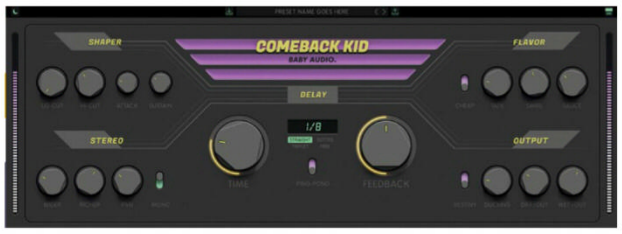
SPACED OUT
Spaced Out is probably our favourite reverb effect, combining sequenced delays, lush verbs and more. "How would we design a Space Echo today?" Baby Audio asked.

SPACED OUT (more!)
Pretty well as it turns out! Spaced Out combines a couple of big engines with intuitive mixing and control to get you some fabulous sounds. It was a 10/10 from us and we concluded, "another cracking, great value, hi-spec tool that packs more creative punch than anything out there".

SMOOTH OPERATOR
Next up is Smooth Operator, an "easy way to remove undesirable frequencies and apply frequency dependent shaping to your audio".

PARALLEL AGGRESSOR
Parallel Aggressor takes parallel processing up a notch from I Heart NY to result in a plugin that, "unashamedly colours your source sounds using compression and distortion... and then lets you blend it to taste. Magic!" And it was another 9/10 from us.

TAIP
Taip is the new tape emulation plugin from Baby Audio that they describe as, "a truly faithful tape emulation that's intuitive and creative in use – with some added features to accommodate a modern workflow". We'll have a review next month...



COMEBACK KID
And finally Comeback Kid is the older relation of Baby Comeback CM, from our Plugin Suite. "Comeback Kid really can deliver a varied, quality sound that is right up there with that from much pricier options."
PTO for an interview with Baby Audio!

Get With The Programmers: Special

As we have a special piece of software in the form of Baby Audio's I Heart NY, it only seems appropriate that we have an especially extended Get With The Programmers with the company founder Caspar Bock...

***Computer Music*: Tell us about your own background and how you got into the music and software world?**
Caspar Bock: "I have been into music production since my teens, starting with a Roland MC-307 Groovebox and a Tascam 4-track cassette recorder. My professional career used to be in advertising, where I worked on creating digital products for clients. So the idea of marrying my passion with my profession – by forming a plugin company – felt like a natural step."

cm: When and how did you start Baby Audio?
CB: "We started Baby Audio in 2019. I was living and working in New York at the time so we launched with the product I Heart NY *[as given away with this very issue - see five pages ago!]*. It offers a simple solution for the classic New York compression sound. Since then, we've kept pushing ourselves with every new release and our user base has grown incrementally."

cm: What is your company's overall philosophy or approach when it comes to software development?
CB: We want our software to be as fun and gratifying to work with as a hardware setup. Great hardware is often defined by its restrictions – and the fact that each piece of gear has its own unique sound. That makes it fun for producers to build their own collection of gear and evolve a signature sound. We felt that software often lacked this kind of personality where you can really 'bond' with it – so we're trying to bring that sensibility into our products."

cm: Tell us about your biggest plugins...
CB: "Smooth Operator is a hybrid EQ, compressor and resonance suppressor. It adapts to your signal in real time and compresses the frequency spikes that make a track sound harsh or muddy. You can create a desired EQ-response curve for your track and the plugin automatically optimises the signal for that, banishing the stuff you don't need.

"For Spaced Out, our idea was to create a Space Echo for the 21st century; not by emulating the original hardware, but rather by taking its ethos and starting from scratch with all the algorithmic firepower at our disposal in the digital age. It's a lush wet-fx processor that combines reverb, delay and modulation to let you create beautiful wet-fx chains.

"TAIP is yet another tape emulation plugin (as if the world needed another one!). The difference, however, is that we've used AI/neural networks to emulate the hardware, which, in our opinion, gives a behaviour that's truly analogue and non linear. We've also calibrated the plugin to encourage more drive/colouration than other tape plugins. This makes it suitable as a saturation/distortion tool."

cm: How do you think your plugins will change the way we make music?
CB: "We want to make it easy for anyone to make their tracks sound like a professional mix. Once we're at that point as a society/industry, the competition becomes about who's the most creative – and not who's got the most expensive gear or best studio access. In some ways, we're already there – in others, we're still getting there. Our plugins are a small but passionate contribution to this change in music culture, and we're proud to be a part of it."

cm: What are your five favourite plugins made by other companies?
CB: "Korg Gadget because it's so smart of a company with Korg's legacy to package their entire heritage into a simple and fun production environment. It's great for idea-starters as well.

"Native Instruments Kontakt because they made a platform that enabled smaller creators to release independent products (in the form of their own Kontakt libraries), leading to more variety for end-users.

"UVI Vintage vault just because I'm a synth nerd and they've done such a good job of capturing the sound (and looks!) of the gear they're emulating.

"Antares Auto-Tune because no other plugin has probably made more of an impact on the sound of popular music. Whether you like it or not, you have to admire it.

"Celemony Melodyne: that thing is magical."

cm: What would you like to see developed in terms of software technology?
CB: "Tools that make it easier to do harder things. Because that will free up headspace to be more creative."

cm: What advice have you picked up from working in the studio?
CB: "Those who finish their tracks go further!"

cm: And from the software industry?
CB: "Follow your passion. Keep raising the bar. And remain humble."

cm: What have Baby Audio got planned for the near future?
CB: "We've only made effects so far – but we're getting into instruments in 2022. We're very excited about that!"

cm: You must get asked about music production all the time. What is the most commonly asked question that's put to you, and your reply?
CB: "I guess it's still the analogue vs digital debate – or sometimes just hardware vs software in general, and what is better. My reply is that no matter what side you're on, you're going to be right about it. It's all just a mindset, and you decide on your own restrictions."

cm: Do you have a home studio and if so what software/hardware do you have in it?
CB: "I have a home studio. It's mainly software-based, but with a few pieces of hardware to spice things up."

cm: So what other gear would you like for it?
CB: "I'd love to get a Roland Jupiter 8 one day; I just can't believe the price inflation of that synth in the past five years. It almost feels silly at this point, to me."

cm: Finally, what is the future of music production in 100 words?
CB: "Writing, producing and engineering – maybe even mastering – will all melt together and become one process, where each individual part is dependent on the others. Plugins will play a big role in this transition and allow people to express themselves more freely. Everyone will eventually sound like a pro, but not everyone's sound will be original. The true originals will come from all walks of life and elevate their sound by doing the 'wrong' things. Sometimes they'll have years of experience. And sometimes they'll have almost none at all." **cm**

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4 new 303 packs!

It's a TB-303 special this issue and we've got not two but four new sample packs for free for you, which are now all available at **filesilo.co.uk**

Cyclick Three-03

It's a 303 Special, so what else could we do?! We asked our sample gurus to come up with four sample packs – that's double our usual count as we're not restricted by DVD capacity from now on! Here's Rob from Cyclick on the first of his packs…

"The Roland TB-303 has been cloned many times, an early example being the Novation Bass Station in 1995. Though it's not just a 303 clone, it traded partly on some factory presets that specifically mimic the 303.

"For this sample pack, the Bass Station is used with these emulation presets, with MIDI control of the main tweaks used while recording lines and loops, including cutoff, resonance, env mod and decay. The lines were derived from straight-up keyboard parts and arpeggiator runs.

"Three batches were made. The first was with the Bass Station running through analogue outboard (see below). No further processing occurred. Each loop was recorded separately, with the controls tweaked in real time. These were recorded with either the saw (ramp) or square waveform and labelled as such. At the end, two multisamples were created from each waveform."

For more "behind the scenes" magic check out our accompanying PDF at filesilo.co.uk.

SELECTED GEAR USED

Novation Bass Station Rack

Eventide MixingLink

Musitronics Mu-Tron III

Moog MF-101, MF-102 and MF-Trem

Universal Audio Starlight

Eventide Modfactor

Boss CS-3 and GE-7

Electro-Harmonix Octave Multiplexer, HOG, Doctor Q and Poly Phase

Fender The Pelt fuzz

Dr. No Octofuzz

Fuzzdog Bass Brassmaster and loads more (see PDF)

303 Grooves

Oli Bell from Groove Criminals reveals how he came up with his first pack of all-new 303-style samples…

"While we don't have access to an original version of the ubiquitous silver bass box, we do have a handful of great-sounding clones. The TD-3 we ran raw (using its faithful reproduction of the 303's bloody annoying sequencer) and with its built-in distortion, which is fine but we prefer to use one of the collection of guitar distortion/fuzz pedals we have laying around for added crunch and fizz. We also used the Minim and Echopark to add some lush reverb and delay to the bass patterns.

"The Roland TB-3 we also ran dry and using its extensive built-in effects, mostly reverb, delay and distortion. Thankfully its built-in sequencer is slightly more user-friendly and we used that to program the sequences.

"Lastly we have the MC-09, one of a few slightly odd boxes Roland released in the early 2000s. This odd-looking beast has a 4-part looper, basic drum machine and effects, as well as two monophonic synth engines, both of which do a really lively 303 impression. Once again it's a pain to program and is rather counterintuitive to use, but you can (with a fair amount of swearing) coax some dirty 303-ish basslines out of it."

SELECTED GEAR USED

Behringer TD-3, TB-3 and MC-09 Phrase Lab

OBNE Minim

Line 6 Echo Park

Modded Danelectro Daddy O

Electro-Harmonix Big Muff

Snarling Dogs Blue Doo

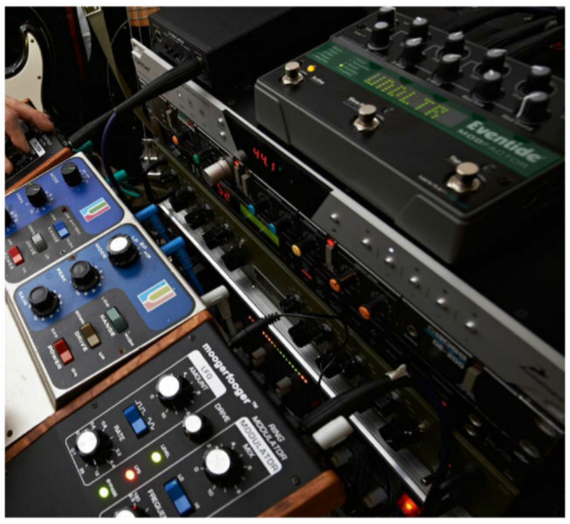
CM303 Acid

You're getting twice as many samples this issue as we are going download only so don't have the constraints of a DVD. So let's go mad with some more 303-style samples from Cyclick. Here's what Rob says about his textures and tones…

"As an accompaniment to the 303 samples, this pack delves into 80s/90s acid house for inspiration. There are three drum kits with two beats in each tempo, with two variants of each plus a set of hits in the Drum Kits folder. The synths were then created over these beats.

"Then a set of 303-style lines were coaxed from the Bass Station and fed, via the Little Labs Redeye, into a chain of pedals. These started with the Boss GE-7 for initial tone tweaks, then through the distortions/fuzzes into the Moogerfooger Ring Mod and then into the Eventide Modfactor and the UA Starlight delay. The Starlight then fed into the Thermionic Culture Rooster for EQ and some 'attitude', and from there into the G-SSL compressor, R24 EQ, Aphex Dominator and into AD converters."

As before, there's more detail in a PDF in the folder at filesilo.co.uk under issue 303.



SELECTED GEAR USED
Novation Bass Station Rack
Moog MF-102 Ring Mod
UA Starlight
Eventide Modfactor
Boss GE-7
Dr. No Octofuzz
Fuzzdog Bass BrassMaster
Sandpit Umschwirren, Basstown Strangler and Scrambler
ProCo Rat distortion

Acid Grooves

Groove Criminals' second new sample pack this issue maintains a classic feel with a batch of acid-inspired beats and basslines…

"Here are some more acid-house-influenced samples to accompany the 303 pack (opposite). This time we concentrate on some beats using the TR-8 with its 727/606 expansion. We use some straight 909/808/606 kits and some beats that nicely mix things up across the machines. The 707 beats were programmed in NI Battery using single-hit samples taken from a TR-707/727 for some of that early acid house digital crunch.

"We couldn't resist dropping a few more TD-3 patterns using the software pattern editor, with the silver box synced to the TR-8 via MIDI. To give a few more non-303 options, we also rinsed our trusty 90s Roland Dance module that is packed full of those rave/acid house sounds.

"To top things off we did some additional bass loops with the analogue Freebass which is another 303 clone, but we stepped away from the resonance (kinda) to create more traditional sounds. Finally we couldn't resist breaking out the Roland SH-101 too…"

SELECTED GEAR USED
Fender Fat and Vintage Tele
Behringer TD-3
Roland TR-8
FAT Freebass
Roland Dance M-DC1 module
Roland SH-101
Flame Clockwork
Native Instruments Battery

18+

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FROM THE cm VAULT

2 Classic 90s packs

Two classic 90s packs for our 303 theme. Get them from **filesilo.co.uk**

Cyclick 90s Collection

For our 90s special back in issue 282 we focussed on dance sounds that emerged via acid house and rave in that decade. Robbie from Cyclick runs through his classic collection here...

Arps "A set of arp runs and single 16th-note filter sweeps all created with the Bass Station. The synth was run into the two Moogerfooger pedals, the XVive Memory delay and TC Hall Of Fame reverb pedal before hitting the dbx 166XL and JDK Audio R24 EQ. The pedals were tweaked for changes in tempo and source sound. The arps were created in MIDI in Nuendo and the sweeps controlled via automation sent to the Bass Station."

Bass "Bass Station all the way, mostly working from the Program 10 (12 and 13 too) TB-303 emulation and tweaking it a little bit."

Beats "Programmed using a combo of Kontakt 5 and Arturia Spark. The Beats samples are the drum machine patterns in varying layered states, and the Breaks are sliced-up acoustic drum loops which have been processed to mix together in the BeatMix loops."

Synth "We focussed on the string pads, DX organs, piano/string combos and the hard lead/pad stab patterns."

Novation Bass Station rack monosynth

dbx 166XL compressor/limiter

Aphex Dominator II multiband peak limiter

JDK Audio R24 EQ

AMS RMX16 500 series

Kurzweil K2600r synth/FX

Yamaha SPX1000 multi effects

Focusrite ISA828 8-channel preamp

Eventide Modfactor

Moog MF-101 Lowpass Filter and MF-102 Ring Mod

TC Electronic Hall Of Fame reverb pedal

Xvive Memory analogue delay pedal

NI Kontakt 5

Plugins from: Arturia V Collection, UVI Workstation (DX patches), UAD, Soundtoys, Eventide, LiquidSonics (Seventh Heaven), iZotope (O8N2)

90s Style by Groove Criminals

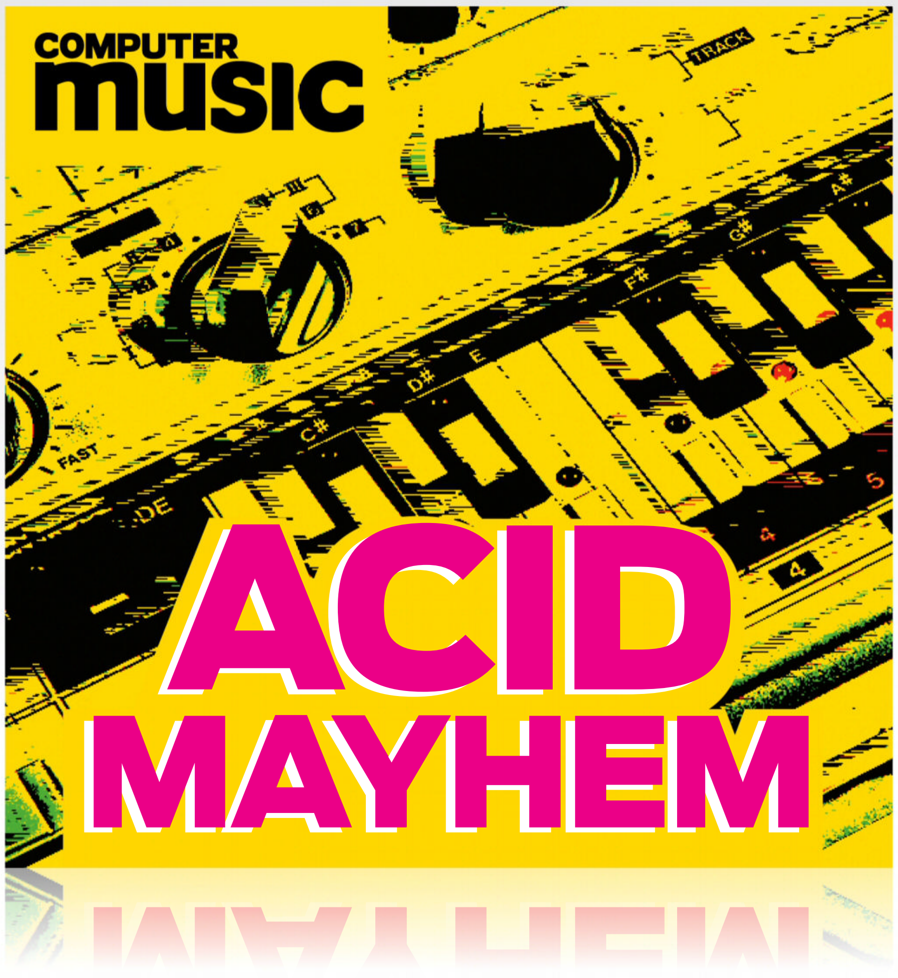
Groove Criminals produced this next set of samples, again originally from our 90s Special. Oli Bell from Groove said: "Focusing in on some key styles and sounds of the 90s, we've dusted off our Korg M1 and rinsed a couple of its more prolific patches. Other hardware that hit the spot included our Roland M-DC1, a JV synth dance expansion card in module form that was put out in the 90s and pretty much covers all of those iconic dance sounds from that decade. We have a couple of 303 clones but used the Roland TB-3 to cover some gritty acid squelches, because we love the user interface and it sounds pretty damn good to us."

FROM THE cm VAULT

Acid Mayhem

Another classic sample pack, this one from issue 272, inspired by the sounds of Roland's TB-303 BassLine synth. This royalty-free collection of bass loops, arpeggiated lines and one-shots has been handcrafted using a mix of hardware synths, guitar pedals and rack processors.

All of the samples are supplied as WAV files, and can be loaded directly into your DAW or sampler of choice. Go get the zip file from our FileSilo download portal (**filesilo.co.uk/computermusic**).



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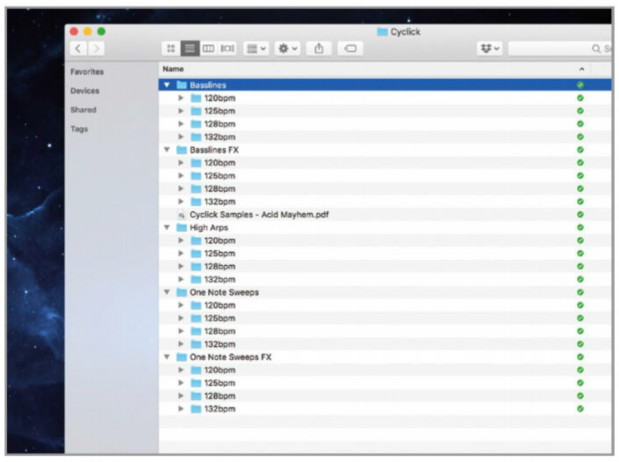
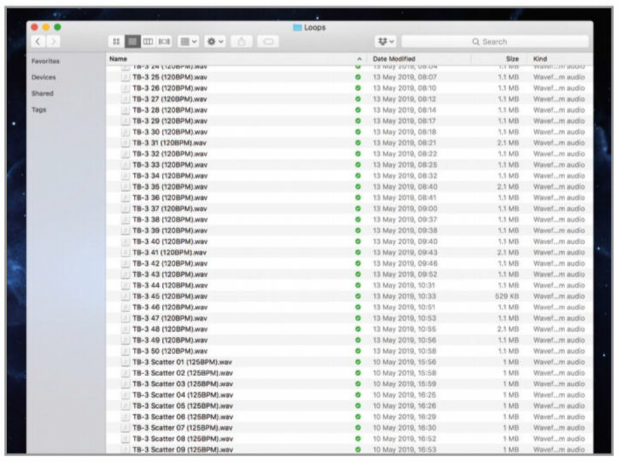
> Step by step

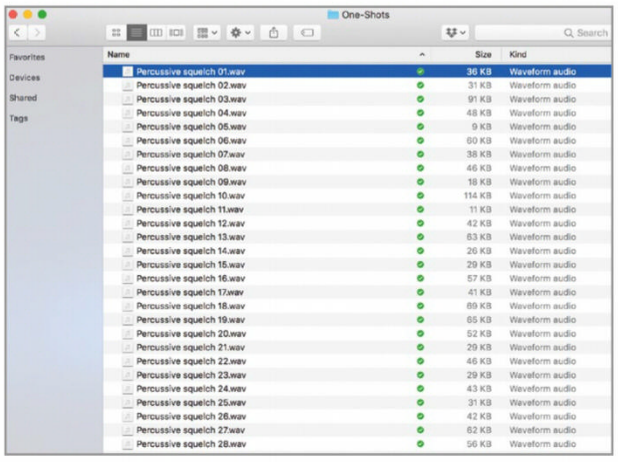
Inside this month's *Acid Mayhem* sample pack



1 > The **Cyclick** folder contains loops split across five categories: Basslines, Basslines FX, High Arps, One-Note Sweeps and One-Note Sweeps FX. The sounds were created using a Novation Bass Station – specifically its TB-303-impersonating preset – funnelled through a chain of rack gear and guitar pedals.



2 > In the **Groove Criminals >> Loops** folder, you'll find a range of acidic loops and arps spanning tempos of 110-130bpm. As you'd expect, many feature flavoursome distortion for that signature 'acid' sound, while others are left clean for you to apply your own drive.

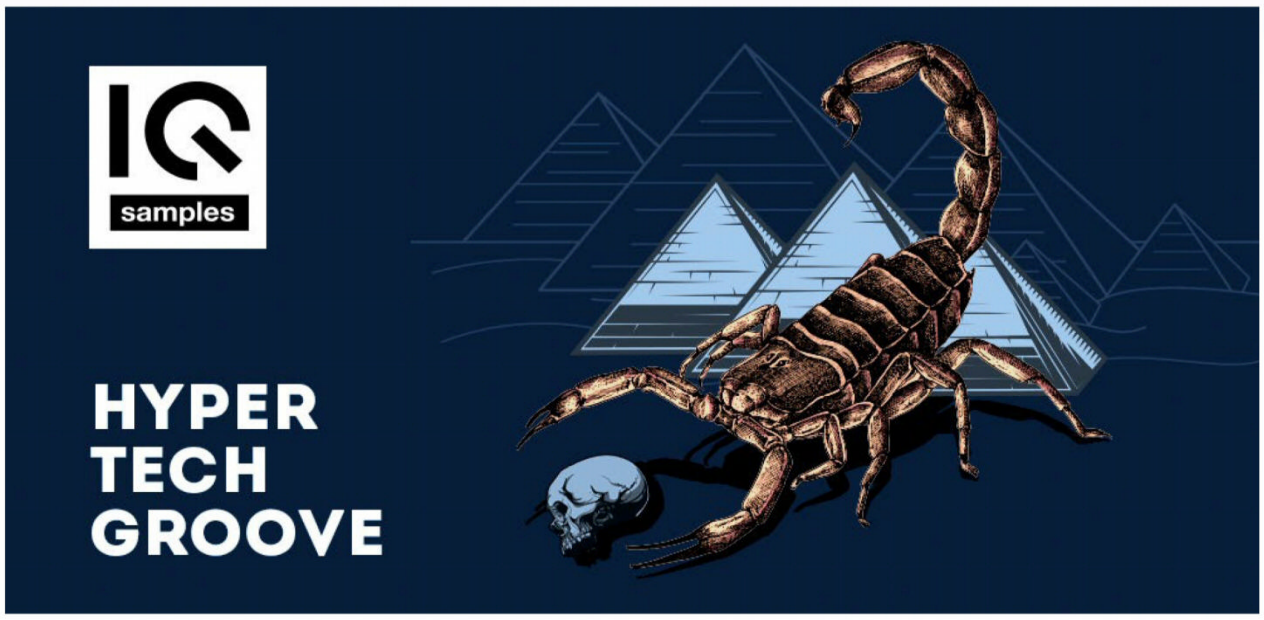


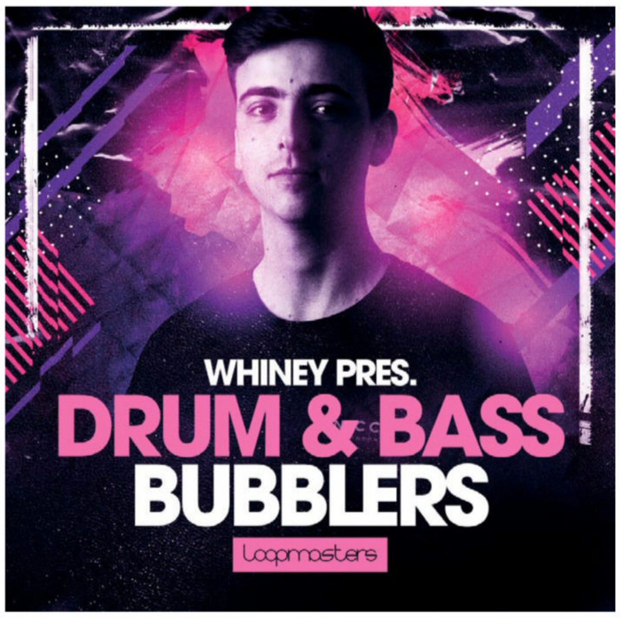
3 > The **Groove Criminals >> One-Shots** folder is packed with 40 short blips and clicks, all exhibiting a resonant 'chirping' timbre synonymous with acid. Try using these as percussive elements in a beat; or sequence a 16th-note pattern, then filter and distort to taste.

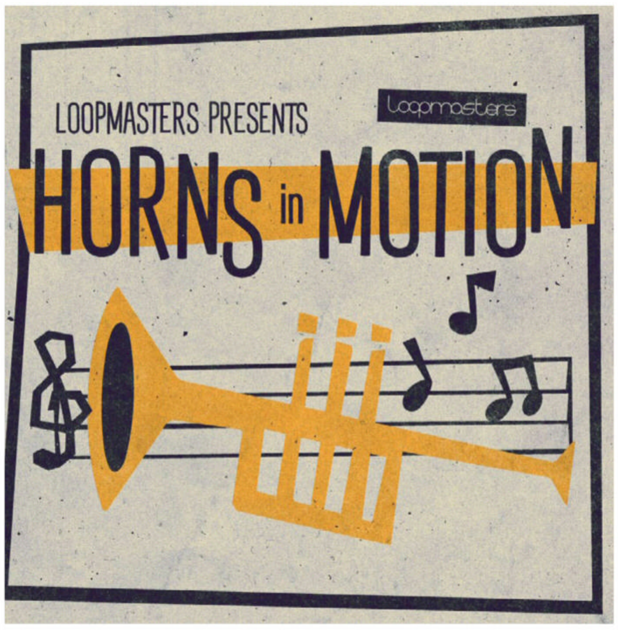
Loopmasters

Loopmasters cm303 samples

- 01 **IQ Samples** Hyper Tech Groove
- 02 **Vocal Roads** Toxic Passion - House Vox
- 03 **Freaky Loops** Somnium: Orch. Chill
- 04 **Loopmasters** Whiney DNB Bubblers
- 05 **Tone Kitchn** Trap Drip
- 06 **Ghost Syndicate** Knux: Grime
- 07 **Loopmasters** Horns in Motion
- 08 **Loopmasters** Choice Cuts

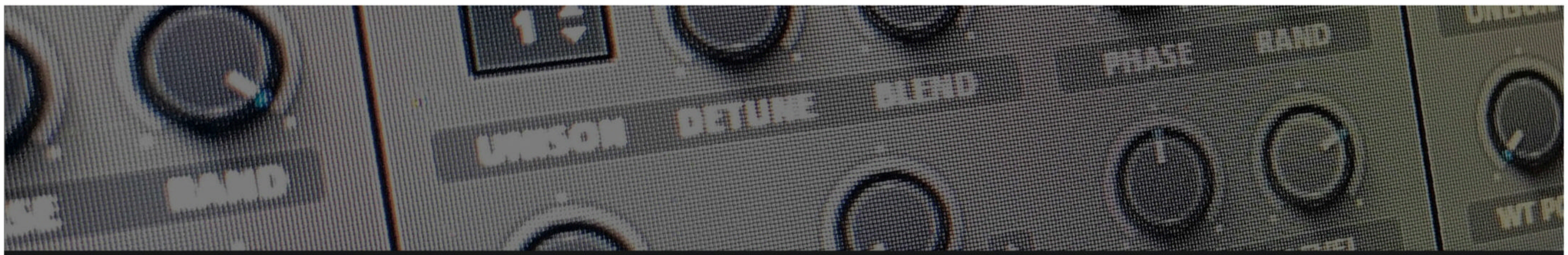






cm/video

Download this month's videos: **filesilo.co.uk/computermusic**

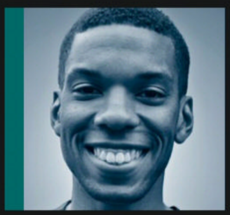


It's our 303 Special so there are two videos on that plus more at filesilo.co.uk

COVER FEATURE

CREATE CLASSIC TB-303 SOUNDS

➔ Read the full article on p16



VOCAL MASTERCLASS

MIXING OUT ERRORS

➔ Read the full article on p50

SYNTH MASTERCLASS

A 303 SOUND WITH A ZEBRA

➔ Read the full article on p52

Photo: Fabula Images

15 questions with…

LONE

UK producer Matt Cutler is a man with increasingly impressive credentials, but our probing *15 Questions* test reveals a dreamer at heart – inspired by shoegaze and futuristic visions of Neuralink-style, minimalist music-making

> A pillar of the UK electronic music scene, Matt Cutler is releasing his first album in five years, *Always Inside Your Head*, this October. In that time, he's switched labels, moving over to London-via-Berlin collective Greco-Roman, and developed a new approach that weaves dream-pop vocals into richly textured electronica, taking inspiration from My Bloody Valentine and Cocteau Twins. Cutler joins us to talk through his creative process and studio setup, giving us an insight into the ideas and instruments behind *Always Inside Your Head*.

1 When did you first get involved with music production?

"Well it definitely goes back a pretty long way. I'd been messing around with some toy keyboards and tape recorders from the age of about nine, but I honestly don't know if you could really class what I was doing back in that time as 'music production'.

"I got a computer game called *Music* for the PlayStation in 1999 which was a super basic sequencer, and you could also write little tunes and stuff on it, so I guess that was my proper introduction to how electronic music was actually made.

"By 2001 my family had bought a PC and I quickly downloaded a demo of FL Studio, or Fruity Loops as it was known back then. Pretty much the same setup as the *Music* game really, so I was able to hit the ground running and started obsessively making my own tunes straightaway. I'm happy to say I'm still using FL Studio as the main brain of my studio all these years later."

2 When and how would you say you became successful, or at least able to make a living from music?

MC: "Well, in terms of 'success' I kinda felt that it was around 2002 or 2003. By that time I honestly started to feel like my tunes were getting somewhere. It started to become my favourite music, and I'd happily listen to whatever it was I'd just finished all day. That was a big aim when I started out.

"In terms of financial success, that wouldn't happen for a long time after. I quit my crappy part time job around 2010 and moved from my hometown of Nottingham to Manchester to take it up full time. Me and my mate had just set up the Magicwire label and put out the *Pineapple Crush* 12-inch, and that was the tune that finally seemed to click with people. Enough bookings for live and DJ sets were coming in, so I just ran with it and didn't look back."

3 What is your overall philosophy or approach when it comes to music (playing, recording and production)?

MC: "It's incredibly simple to be honest with you: just make the music you want to hear. Everything else is secondary to that. There is no greater feeling in my life than when a piece of music I'm working on starts to take shape.

"For me, I have to be totally moved by what I'm working on long before anyone else in the world hears it. If you're trying to make music for other people or to try and follow trends, I honestly don't think it lasts. I think the key to proper longevity seems to generally be: make the music that moves you most and all of the other shit will follow."

4 Tell us about the rest of the gear that's in your studio.

MC: "I've always kinda come from the laptop musician school of keeping it mostly in the box, so it's tons of plugins that I've collected for the best part of 20 years, and FL Studio.

"I'm looking around now though and amidst the absolute mess that is my studio I can see an old Yamaha DX7, mainly used for the Rhodes preset for when I've been trying to capture that '80s movie/Spielbergian vibe in my tracks *[laughs]*. There's a Roland SH-01A, as I couldn't justify spending the money trying to get an original 101, but wanted to get those glorious lead sounds down; a Novation Ultra Nova which has been good for live stuff; an old Akai MPC2000XL, Akai APC40, Akai MPX16; a battered Roland SP-404 not used since the 'Lemurian' days, though, I do often think about bringing that back.

"I have to be totally moved by what I'm working on"

"I also have two Technics SL1210 MK7 turntables and two Pioneer 2000NXS2 CDJs going into a Pioneer DJM-850. There's a couple of Røde NT1A mics which I've used for every found sound/percussion or vocal recording on any of my tracks; an M-Audio controller keyboard; and two Adam A7X monitors going into a Focusrite Scarlett 18i20 interface. Finally, a cheap bass guitar, an electric guitar… oh, and boxes of crappy little percussion instruments: shakers and homemade things I can bash."

5 What are your favourite five plugins?

MC: "Honestly, I'd really prefer to keep specific plugins to myself so as not to give *too* much away but I would say that a great deal of what I always use when I'm working on tunes are the FL stock plugins.

"EQ and reverb are by far my most used and I just know this stuff like the back of my hand. Sure there are tons of endlessly fancier plugins you could use but I really just want to stress that it's not what you use but how you use it. I've always kept it incredibly basic and those limitations have pushed me to be more and more creative over the years."

6 How does a track typically start structure wise and then progress?

MC: "Over the years it's changed so much, and will change generally from track to track these days, but I'd say that mostly I'll start with chords. I'll try and lay down a progression that moves me and then let my brain respond to whatever the chords tell it to. Usually melodies will spring to mind from there and I'll start to jam those over the top.

"I'll chuck in a random drum break to guide all this, usually, and gradually build it up from there. I definitely feel like my major strength as an artist is the ability to respond to quite small or basic elements. Like, if I have nice chords, I find it so easy to come up with the rest from there. It starts to snowball really quickly. It's just getting to that starting point that can be tricky."

7 How do you know when a track is finished? And what advice do you have to complete a track?

MC: "The track is finished when I can listen to it without wanting to change anything. I often fall into the trap of finishing a track, exporting it and thinking I'm done with it only to then listen back the next day and realise there are slight tweaks needed – or sometimes whole changes!

"I guess I'm quite an impatient person so I always want to finish the track and move on to something new. What ends up happening is, I'll listen back to what I've done the next day and realise there are elements that could be better, then go back in and alter whatever it is that stuck out to me.

"It'd be much better to walk away from a track for a breather, when I think I'm done with it and go back the next day with fresh ears because I often end up with about 50 mixes of a track. Sometimes they come out quickly though, and they're always the ones I won't touch afterwards. There's something about catching a vibe quickly and then moving on which has always appealed to me."

8 Talk us through one or two influences behind the new album.

MC: "Musically I wanted to capture the way Kevin Shields' production on the My Bloody Valentine records, or the way Liz Fraser's voice glistens on the Cocteau Twins records, make me feel when I listen to them. So, it wasn't a case of trying to copy either band's music or trying to sound like them, but more a case of trying to capture the way they make me feel.

"So I'd listen deeply and learn about how I could apply that to what it is that I do. Tons of breakbeats, lush lead melodies and deep ambient textures backed up with the most beautiful chords I could come up with, but with

Matt turns to his Roland SH-01A for "glorious lead sounds"

the addition of a big dose of hazy Kevin Shields-esque noise.

"I try to get a beautiful uneasiness to the tone and lush vocals that are much more about melody than specific meaning, so using vocals more as an instrument – like another synth but a thousand times more organic."

9 Who was responsible for most of the vocals on the album and how did the collaboration come about?

MC: "I knew this album had to have female vocals. The tracks I was writing were kind of screaming it out to me. I was becoming obsessed with Cocteau Twins and Bilinda Butcher's vocals from My Bloody Valentine, and wanted to expand my sound to capture a similar feeling to what I was getting through that.

"I mentioned this to my mate Chris [Boot] and he played me a few tracks he'd made with a friend of his, Morgane Diet. I'd explained to him what I was going for and he basically said something like 'yeah she's amazing, kind of like Björk at times', and the tracks he played me were lush. Her voice stood out as pretty much exactly what I was imagining.

"Cut to a few months later and he's put us in touch through email. I started sending her little chord progressions and basically asking her to sing what came to her. I wasn't too bothered about lyrics particularly; it was much more important to me to get a feeling in the melodies – words weren't important as I knew she could communicate so much more this way.

"She'd sent me back folders full of clips – melodies she'd sung over the chord progressions I'd given her. From there I'd build songs around them. It became like the world's most insane puzzle trying to piece together the best bits over what I was working on. The vocals really made me respond in different ways than I would have just working on my own and it was so exciting as the tracks came together."

10 How are you planning to translate this project into a live setting?

MC: "This is what I'm heavily in the middle of right now. The first live show is at Village Underground. I'll be bringing Chris Boot with me, who I mentioned. He's an amazing drummer. We toured the last album, *Levitate*, together. We'll be meeting up soon to jam some ideas – it really breathes new life into the tunes to have his live drums going off next to me on stage. It makes me improvise in different ways as well, which is exciting.

"From my end I'm basically building this massive Ableton project which I'll be controlling with a couple of Akai MIDI controllers. I'll be triggering and tweaking MIDI chord progressions from the tracks with a couple of synths, I'm still not 100% sure which I'll be taking out yet.

"I'll have the SH-01 there to tweak lead melodies live, and will basically be triggering hundreds of clips in real time. I've remixed most of the tracks and have them totally broken into tiny bits and MIDI keys and stuff, so I'll basically be building tunes live on stage which is something I've always kind of wanted to do, but never found the best way of doing it.

"It's so exciting to see it coming together so I'm really looking forward to the show and to taking it on the road next year."

Photo: Fabula Images

"You could take everything from me but leave the laptop"

11 What is on your wish list in terms of studio gear?

MC: "Actually, I'm so content with my messy little setup. You could take everything away from me but leave the laptop and I'm confident I could make interesting music quite happily for the rest of my life. That said, if anyone wants to buy me a Yamaha CS80 or 70M I would not be complaining. The holy grail for me."

12 What would you like to see developed in terms of studio technology and why?

MC: "Some sort of Neuralink type shit, which would cut out the middle man of actual studio gear and mean you could just imagine tunes into existence. That's always been the dream for me. I mean, I'm quite lazy, so I guess it'd suit me, but it's more the fact that I reckon most of my music sounds better in my brain than the stuff I'm actually capable of producing.

"It's always been that way to be honest. I am getting closer to bridging the gap though. I think that technology is probably not as far off as you'd think. Over the next hundred years we'll see mad leaps like that I think, as long as we don't blow ourselves up in the meantime."

13 What advice can you offer others who are starting out in music production?

MC: "I'd just tell anyone starting out to just try and make the music they'd like to hear in the world. Imagine the best music in the world and then spend your life trying to be a good enough artist that you can bring it into existence.

"People need to find their own way when it comes to art. I wouldn't want to influence a younger artist and take them off a path more suited to them. Maybe my advice would be: don't listen to advice! Do what feels right and don't over think."

14 What track by any other artist do you wish you had produced?

MC: "Great question. I have so many. *Honey Power* by My Bloody Valentine, specifically the outro section that comes in after the track is over. I think that is the most perfect piece of music I've ever heard. *Everything You Do Is A Balloon* by Boards Of Canada is a pretty perfect track. I'd definitely feel pretty good having come up with that."

15 Finally, what else have you got planned for the near future?

MC: "Getting the Village Underground live show done is the first mountain I have to climb, so at the moment I'm not seeing anything too far beyond that. I'd like to get back into making tracks in December though. I have a bunch of things I started at the beginning of 2021 that I'd quite like to try and tie up before Christmas. Also I'm toying with the idea of putting out an EP of straight-up club music to follow up the album, so ideally I'd like to get bang on that as quickly as possible." **cm**

Lone's latest album, Always Inside Your Head, *is out now*

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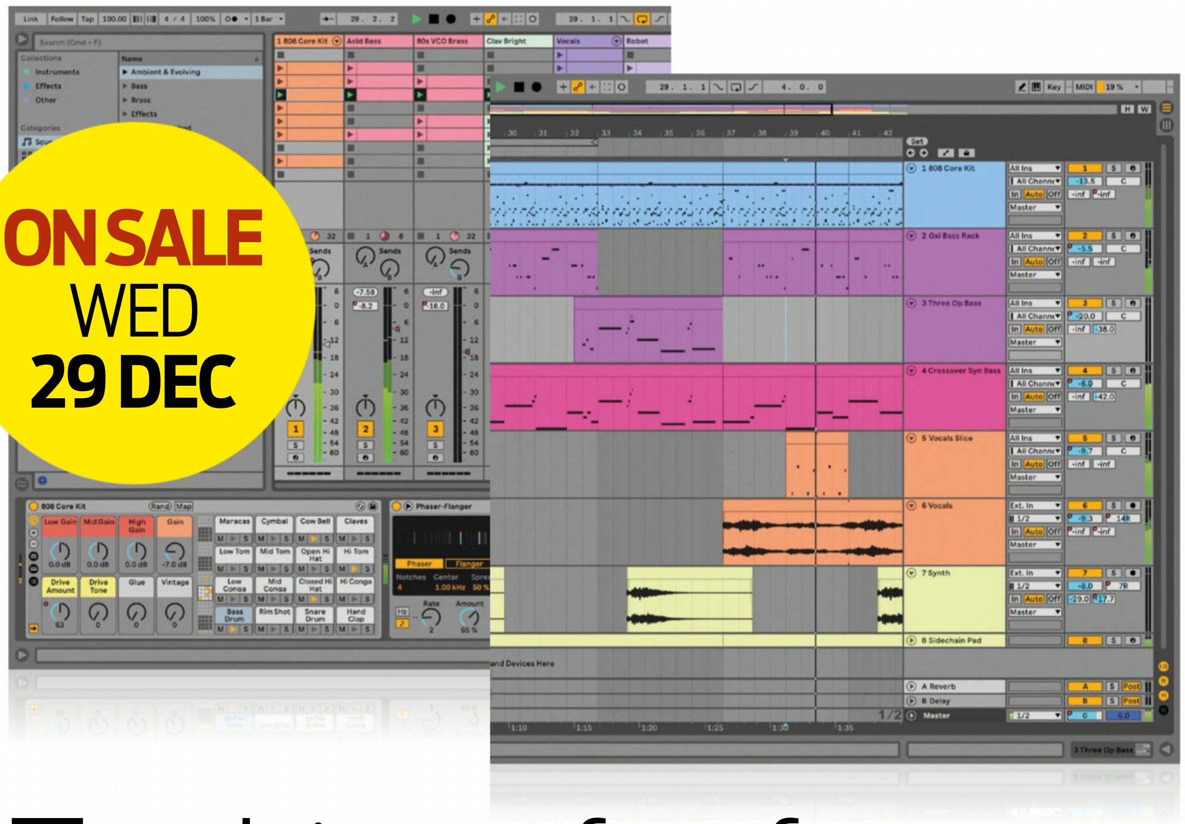

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